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Chaldæan and Assyrian Art.

THE only dissatisfaction that we can feel in turning over the two beautiful volumes in illustration of Chaldæan and Assyrian art, by MM. Perrot and Chipiez,* is in the reflection that in this, as in so many other publications of a similar scope and nature, it is a foreign name that we see on the title-page, and a translation only which we can lay to our own national credit. That we borrow our plays "from the French" has become a stereotyped reproach against us, the weight of which, however, is in one sense lessened by the fact that a good deal of this kind of plunder has not been worth appropriation, and might better have been left to bloom unseen, or unborrowed, in its native atmosphere. But in the case of works on such subjects as the history and critical appreciation of ancient art, we can seldom lay any such flattering unction to our souls. The predominance of really important works on archæology which have to be translated for the larger reading public of England, and the comparative scarcity of original English works of a similar calibre, is a reproach to us which we would fain see removed. We have Mr. Murray's learned work on ancient Greek sculpture; the second volume of which has just reached us, and which is an example of the type of work we are speaking of; but such works are exceptional in English literature, and it is most frequently to French and German writers that we are indebted for the best light and the most interesting criticisms on the arts of antiquity. Mr. Armstrong's translation is very well done; our regret is that it is a translation.

The authors regard the phrase "Chaldæan" as really including Assyrian art, as the greater includes the less, Assyria having been in fact an offshoot of Chaldæa, carrying on into some further developments the arts which had risen into eminence under the older and half prehistoric kingdom which first flourished in the plains adjacent to the Tigris and Euphrates. The differences are rather those of detail than of general style and spirit. The resemblances or coincidences in art which attract our notice in these profusely-illustrated pages, extend, however, a great deal further than the region of Mesopotamia. A certain similarity in the broad course of artistic development and civilisation between Egypt and Mesopotamia is noticed by the authors at the outset. "In the valley of the Tigris and Euphrates, as in that of the Nile, it was in the great plains near the ocean that the inhabitants first emerged from barbarism, and organised a civil life. As the ages passed away this culture slowly mounted the streams, and, as Memphis was older by many centuries than Thebes, in dignity if not in actual existence, so Ur and Larsam were older than Babylon, and Babylon than Nineveh." Significant is the expression "slowly," used in the above passage in regard to the course of art and civilisation on those old-world plains. It is only when we endeavour to realise to ourselves the immense difference between the slow movement of the current of life and thought in early ages, as compared with the haste and restlessness of modern life, that we can understand the extraordinary fact which meets us more and more the more we study the remains of antique art, of the perpetual recurrence of the same leading forms and *motifs* in the art of ancient times, in countries which the then conditions of transport and travelling placed so widely apart from each other. In the modern era a school of art or architecture may rise and decline in a century, or even half a century. But in the days when travel moved slowly, and printing was not, and even writing was put on record often through the long and laborious process of carving letters and symbols in marble or granite, it would seem that all development of mind and arts and manners moved with corresponding deliberation. Even the comparatively long course of Mediæval architecture seems like a passing efflorescence of artistic zeal and genius, compared with the slow maturing, century after century, of the arts and civilisation on the banks of the Nile and Euphrates. And it is only in keeping this idea of slow development before our minds, that we can understand the constant recurrence of the same forms, the same ideas, sometimes with almost identical treatment, all over the ancient world. It is easy now for American painters, for instance, to take up the new French ideas in art; but how long must it have taken, in the pre-Grecian period, for the same ornamental forms to have permeated the then existing world so as to meet us in Egyptian, Chaldæan, and Etruscan art, at Cyprus, at Mycenæ, so that in wandering through museums or in turning over the leaves of illustrated works, we are so constantly reminded that we have "seen that learning before." We say "the pre-Grecian period" advisedly, for the more one studies the art of the countries of the ancient world the more they seem, in regard to ornamental art at least, to stand to Greece as a vast reservoir, from which her quick-witted artists drew the raw materials, to be refined to the highest finish they were capable of; an idea of which many illustrations in the present volumes furnish instances.

In the case of architecture in the larger sense, regarded as a system of building construction there is, however, little affinity between Chaldæan and Greek, though much between Chaldæan and one portion of Egyptian architecture, viz., the pyramid, if we are to call the pyramid architecture. The authors of the present work are inclined to deny it that rank and title, and draw the distinction between the form of the pyramidal building in Egypt, a mere gigantic expansion of the sarcophagus, with no architectural purpose in its height and predominence, no way even up to its summit, and the Chaldæan pyramidal building, somewhat analogous, but in which the summit was a shrine with sides built with sloping ramps forming an easy access to the top. Messrs. Perrot & Chipiez give numerous conjectural restorations of this and other forms of Chaldæan architecture, which are, to say the least, very interesting and very well illustrated; for the study of which we refer the reader to their pages. In the illustrations from the book which we have been enabled to reproduce to accompany these remarks, we have preferred to choose the representations of actual objects unaltered, rather than those which are more or less conjectural. When we compare Chaldæan architecture with Greek, or with the Egyptian columnar architecture, which was in many respects its prototype, we find that, though there are some most interesting suggestions of detail which seem closely connected with Greek detail, in the main the column is a very minor feature of Chaldæan architecture; the arch was largely used, and there is much more affinity to be found with Early Romanesque and some forms of late Roman building than with anything in Greek architecture considered as a whole. The most marked and distinctive feature of Assyrian architecture, as observable in the better-preserved remains, is the long vertical grooves, rectangular in section, by which the expanses of brick wall are striated. Messrs. Perrot & Chipiez are disposed to regard this feature, and we think with good reason, as evidence of a timber origin, the result of something like a chamfer at the meeting edges of adjoining planks; it has all that appearance, and the idea is in accordance with what increasing evidence and investigation seem constantly to lead us to, the generally prevalent influence of timber as a precursor of stone in ancient building styles. On the brickwork the authors make the following observations:—

"The Assyrian brickwork, in which so many vast undertakings were carried out, consists of units all of one dimension, and bonded by the simple alternation of their joints. Supposing a lower course to consist of two entire bricks, the one above it would be one whole brick flanked by a half brick.

* A History of Art in Chaldæa and Assyria, from the French of Georges Perrot and Charles Chipiez. Translated and edited by W. Armstrong, B.A. London: Chapman & Hall. New York: A. C. Armstrong & Son. 1884.

An Assyrian wall or building consists of the infinite repetition of this single figure. Each whole brick lies upon the joint between two others, and every perpendicular wall, including parapet or battlement, is raised upon this system."

This simple form of brickwork, with rather large bricks, seems almost naturally to suggest the peculiar finish of the Assyrian buildings, that of a series of crenellated or "corbie-step" battlements, assuming the stepped form which must have been constantly recurring before the eyes of the builders in the process of bricklaying. The authors give a restoration of the crowning feature of Sargon's palace at Khorsabad (vol. i., p. 255), after materials compiled by M. Place; it consists of an oversailing course of brick, making a dark line of shadow, above which the brickwork is carried up a few courses on the same oversailing face, ending in the crenellated battlements before referred to, and with a line of polychromatic ornament between the first oversailing course and the battlements. Although, observe the authors, "this method of crowning a wall may seem poor when compared to the Greek cornice, or even to that of Egypt, in view of the materials in which he had to work, it does honour to the architect. The long line of shadow near the summit of the façade, the bands of brilliantly-coloured ornament above it, and the rich play of light and shade among the battlements, the whole relieved against the brilliant blue of an Eastern sky, must have had a fine effect. The uniformity from which it suffered was a defect common to Mesopotamian architecture as a whole, and one irreparable from the absence or comparative disuse of stone." This, as a critical point, we do not quite concur in; it is possible to make a much bolder and more effective cornice than the Assyrian, even with brick alone, and especially with the large Assyrian brick; but the feature has the merit of very marked character. The moulding, it is observed, borrowed by Assyria from Chaldæa, is a brick one, and is almost identical with the usual cornice mould of Egypt, a small torus moulding, with a large shallow cavetto over it. It seems extraordinary what an immense acceptance this simple but very effective moulding (for a strong sunlight) obtained in ancient architecture, both in regard to extent of country and length of time during which it was prevalent; and in a smaller and more refined form, it is almost undoubtedly the parent of one of the commonest forms of Greek crowning moulding.

There are other forms in Chaldæan and Assyrian architecture which bear in a more interesting manner on Greek architectural detail. One of the most noteworthy illustrations of this in the book is that figured No. 1 on our page of illustrations, which is a representation of a bas-relief on a small piece of stone about a foot long, which was found at Abou-Abba, about sixteen miles west of Bagdad, one of the oldest Chaldæan sites, and a great centre of the worship of the Sun-god. It is this worship on the part of a certain king who is seated under a canopy supported by a column, which is the subject of the sculpture. The line formed by the back of the canopy, a curve of no special geometric description, is, as the authors seem to admit, somewhat of a puzzle, in regard to the mode of construction which it is intended to represent. They suggest that it represents a metal frame, as such a curve would not be easily executed in wood, and a brick arch resting on a column is not a probable explanation. We should hardly base any conclusion on the irregular nature of the curve, which may be merely the result of the carelessness or inability of the carver in regard to making a true curve. But the column is of great interest, as in it we seem to see a primitive form of the Ionic capital. In this representation the column is not only wooden in proportion, but appears like a representation of a palm-tree trunk. Messrs. Perrot & Chipiez's comment is to the effect that "the markings upon it suggest the trunk of a palm, but it seems doubtful whether this was allowed to remain in its natural uncovered state. Even in the climate of Chaldæa a dead tree-trunk exposed to the air would have no great durability. It is probable, therefore, that the wood was overlaid with plates of gilded bronze, fastened on with nails. This hypothesis is confirmed by one of M. Place's discoveries at Khorsabad. There, in front of the harem, he found large fragments of a round cedar wood beam almost as thick as a man's body. It was cased in a bronze sheath, very much oxidised, and resembling the scales of a fish in its arrangement. The metal was attached to the wood by a large number of bronze nails. Comparing these remains with certain bas-reliefs in which different kinds of trees occur, "we can easily see that the Ninevite sculptors meant to represent" (by these scales of metal) "the peculiar roughnesses of palm bark." An enlarged drawing of a portion of these bronze scales, which is given in the book, bears out this view, when compared with the drawing we are immediately alluding to, and seems like a reduction to conventional form of the palm-tree bark, in a spirit in itself quite Greek; and the column in the bas-relief is a ruder representation of such a surface decoration. Following out this limit, the authors suggest that the curves or *volutes*, which, as will be observed, occur both at the capital and base, were also of copper, which would lend itself so easily to being hammered into such forms. It is, perhaps, to this bas-relief that Sir F. Leighton was partially referring in his address to the Academy students last week, in the course of which he mentioned the artistic power of the Greeks in producing so refined a form as the Ionic column, out of what was originally "but a post of wood and a curl of copper." It must be remembered, however, that, as we see in the Lycian tombs, the detail had made some progress in its refined form before the Peloponnesian Greeks took it up and completed it. The occurrence of the feature both at the foot and head of the column, suggests that it had originally no special function as a detail of the capital, but was simply an ornament easily formed and which might be introduced at pleasure independently of constructive expression. There seems to be a reference to this ornament in the stele found at Khorsabad by M. Place, fig. 2 in our plate. This is a much later detail, and bears much more direct relation to Greek forms, in the fluting, in the arrangement of the spiral or volute forms, and in the crowning ornament over them, so plainly a large and rather clumsy anticipation of a well-known Greek ornament. "The grace and slender proportion of this stele," the authors observe, "are in strong contrast to the usually short and heavy forms affected by the Assyrian architects, especially when they worked in stone. It is difficult to say what its destination may have been. It was discovered lying in the centre of an outer court surrounded by offices and other subordinate buildings; it has neither figure nor inscription. The base was quite rough and shapeless, and must have been sunk into the soil of the court, so that the flutes began at the level of the pavement." A form of ornament found in late Assyrian work, in the eighth and seventh centuries B.C., is shown in fig. 4,* and is to all appearance distinctly Egyptian in character, except in regard to the introduction of more gracefully curved lines instead of the stiff straight lines of the Egyptian ornamentist. The more distinctly Assyrian form of radiating ornament, with the round-ended lobes, is found frequently in a painted form, with the lobes alternately light and dark, or sometimes chevroned; there are some very interesting fragments of painted Assyrian pottery in the British Museum, showing this class of work, of one of which the authors give an illustration. Attention was drawn to this in some articles on "Ornament" by Mr. Statham in the *Portfolio*, two years ago, where it was sketched among other examples of types of archaic ornament. The comparison of this round-ended ornament, and the rosette flower in fig. 4, with Greek ornament, suggests the idea that there are really two derivations for the class of form in Greek work usually called the honeysuckle ornament; the painted forms, especially the alternating ones, seem like a Greek refinement on the type of form of figure 4; the carved acroterial ornament, so familiar in Greek architecture, seems rather traceable to such a detail as that on the head of the stele just spoken of.

In speaking of the short and thick forms which the Assyrian sculptors habitually employed in their architecture, it must be borne in mind that this applies only to Assyrian, not to Chaldæan, architecture, and that the difference between the two is the difference between stone and brick. The Chaldæan is a brick style, with stray traces of timber origin,—a very unusual combination of elements, but one which is amply illustrated in the book. A succession of semi-circular half-columns of brick, bonded into the walls, and very thin in proportion, was a constantly-recurring feature; and those who have attributed this to a survival of the idea of logs or trunks of trees placed upright in contiguity are probably not far wrong. The peculiarity is in the fact that such a form, as well as the wall-panelling or striation which was another common source of surface decoration for the exterior of a wall, should have been worked out in a material such as brickwork, presenting naturally so little facility for imitation of woodwork. The translation of wood forms into stone is a common phenomenon; that they should be translated into brick may be cited as a striking example of the inherent tendency of architectural design to imitation and precedent.

Of the sculptural art of the Assyrians we have among us familiar examples in the grand human-headed lions and bulls which are among the finest acquisitions of our national museum. These represent what we may call the specially architectural sculpture of Assyria. They are works the obvious intent of which is architectural decoration, and they seem to lose much of their meaning and suitability when regarded in a separate light as mere sculpture. They are among the grandest and most successful examples of this class of semi-architectural sculpture; but they do not represent properly Assyrian sculpture either in its shortcomings or in its real power. The weakness of the Assyrians was in the delineation of the human figure in its proper guise and as sculpture independently considered. In such work they were nearly as stiff and conventional as the Egyptians, without Egyptian grandeur. The nude figure they hardly attempted; a grotesque example is indeed given by our authors, a figure representing the demon of the south-west wind, which was to Mesopotamia what the east wind is to us, and which is at least made to look sufficiently repulsive. But the Assyrians, in common with other peoples eastward of Greece, saw little of that nude form which the Greeks worked out in sculpture with such magnificent success; their social habits and feelings stood in the way of their love of sculpturesque study, and they give us only stiffly-posed draped figures in a conventional attitude. In their human statues, however, or in some of them, there is a considerable resemblance in manner to the art of Branchidæ, most noticeably so in one which is given by the authors in a separate plate, in vol. ii. (p. 126), an example now in the Louvre, and called here a royal statue. In the straightforward attitude, the stiff lines, and regular folds of the drapery, this strongly reminds one of archaic Greek work. The one which we have selected for illustration was one of several statues found in the great edifice at Tel-lo, almost all on the soil of the central court. In this, which is probably later than the one just referred to, there is considerable power of modelling displayed, in the same kind of way in which some of the later Egyptian statues are treated,—an indication of the outline and contours of the body through the veil of a large enveloping drapery. As in so much other Assyrian sculpture, the form of the seat is very carefully given; the Assyrian sculptures offer a fund of archæological suggestion in the matter of furniture. All these statues have one attitude: all have their hands folded within each other, and placed against their chests,—"an attitude still used in the East to mark the respectful attention of the servant awaiting his master's orders." It would seem, probable, then, that these statues represented the idea of submission or veneration, probably directed towards some superior being.

But when we come from human figures to animal life, the case is very different. The Assyrians were mighty hunters; and just as the Greek sculptors portrayed with such power and realism the human figure which they saw in the gymnastic contests of their time, so the Assyrian sculptors, who were doubtless constantly assisting at lion-hunts and other such sports, portrayed the king of beasts with a power and general fidelity which, allowing something for convention, has seldom been surpassed. Even the conventionality is an element in the artistic excellence of the reproduction; it shows so much of the essential qualities of a broad style of bas-relief in stone, and such a power of seizing and reproducing the salient points of animal action and anatomy, that the figures impress us with the idea of fossilised animals, which have lost some of their variety of detail and mobility of action, but retaining all that can adequately be expressed in a broad style of stone bas-relief. One or two of the finest examples, such as the wounded lioness

* See Illustrations in present number.

dragging her crippled hind limbs after her, are too well known now to need more than a reference. One example which we reproduce * (fig. 6) is equally striking in its grand delineation of the couchant lioness, whose massive framework is indicated in a manner that is formidable to look at, and shows how keenly the artist had observed the salient points of his model. It may be observed that there is considerable similarity in the style and manner of this work to some of Blake's powerfully-drawn outlines or "side elevations," as they may be called, of animals, introduced in the borders of his illustrations to the Book of Job and elsewhere. Through all their representations of the chase, either the pursued animals or the pursuing hounds, there is the same powerful expression of animal action and animal character, taken direct from life; the wounded lion pouring blood from his mouth, stiff with the spear that has gone through his lungs; the attacking lion springing against the occupants of a chariot, with both claws wide distended, ready to grasp his prey; these are points which show just the same spirit that marked the Greek treatment of human figures and often of animals; a realisation of the most salient features of the model, from actual every-day observation.

The favourite hunting scenes of the Assyrian bas-reliefs convey to us something else besides the points of animal action as displayed in the lion. The horses and chariots are more stiffly and conventionally depicted; the sculptor's "soul was among lions," and in them he put forth his best powers. Even in purely ornamental work, how powerful is the style of the scabbard termination (fig. 3), with the two lions in deadly grip. But the grim earnest of the scenes, and some of the details of the methods employed, give us a vivid idea what a physically remarkable people these Assyrians must have been; a people who were given to splendour of dress, who covered their buildings with bronze and gilding, who arranged their hair and beards in laboriously dandified curls, and went out to shoot lions with bows and arrows. We can feel no doubt about the literal truth of the incidents of the hunting-field which are represented. What must have been the average muscular development of the forearm among people who could draw a bow that would send an arrow right through the body of a lion? The immense muscular development of the arm in the Assyrian statues, which is observable everywhere in the bas-reliefs, must be from life also; it is the only possible explanation of the feats of shooting which they are represented as having performed. Semi-barbaric as they were on one side, they were a people possessed of wonderful power and vital energy, both of body and character, and well deserved to have their doings and the relics of their art, more than three thousand years afterwards, commemorated and illustrated in so admirable a book as that of Messrs. Perrot & Chipiez, the manifold interest of which we have only been able briefly to indicate.

THE AGNOSTIC SPIRIT IN MODERN ARCHITECTURE.

THE impending competition for the new Government Offices, and the speculations to which it has already given rise as to the style likely to be adopted by the majority of the competitors, and the grounds upon which their adoption of it will rest, bring into fresh prominence the disorganised condition of architectural taste in this country. We appear to be at the present moment wholly without any architectural convictions, and to have no accepted artistic creed. To estimate approximately the chaotic nature of the art around us it is only necessary to cast a look at the previous competition for similar public buildings. The world of art was then divided into warring hosts, each filled with an inspiring faith in the merits of special forms of art and their universal applicability. There were Gothic men convinced of the demonstrable superiority of Mediæval principles of design. Of this section Mr. Beresford Hope was a conspicuous type. His party was confronted by an opposing section,—men who scouted the Mediæval styles for any but quasi-Mediæval uses, who held fast by Classic art and its modifications as founded upon common sense, suitable to our climate, conformable to modern requirements, and sanctioned by the preference of all the more civilised European nations. At the head of this section Lord Palmerston occupied a prominent place, an unyielding and uncompromising Pagan. A third school sought to revive the Gothic of Southern Italy, and of their aspirations Mr. Ruskin was the eloquent leader and exponent. The school which had no long time before sought to revive our only distinctively national manner, viz., that which marked the reigns of Elizabeth and James I., failed to produce a mind of sufficient calibre to render the attempt successful, and it left the field in possession of the architectural parties above enumerated.

But the distinguishing characteristic of each was an earnest belief in its own excellence, and it was but as a matter of complaisance that each allowed a qualified merit in its rivals. The architects of thirty years ago were animated by an unquestioning faith, and they defended the systems they severally espoused with all the proverbial energy of zealots.

The feeling which actuated them would appear now to have entirely evaporated. The sense of perplexity and dismay which, in all matters pertaining to religion, has fallen like a blight upon the whole family of European nations, is reflected in their art, and the phenomenon is for the first time brought home to us in all its force by the problem which is now presented to all the architects of Europe, in what will probably be the greatest opportunity of the century.

One cannot but hear something of the questions which are just now upon so many lips. Will a Gothic building have a chance? Must the style be some form of Classic? Would some variety of round-arched architecture, with a spice of Byzantine detail, be looked at? The decision rests practically with the Office of Works, since it will eventually lie with a committee nominated by that department; and the Office of Works is a department of architects who have adopted one almost unvarying style. When local conditions suggest a Gothic building the concession is made. When no such conditions exist a Classic manner is employed. There are no conditions to impose a Gothic structure on the Spring-gardons site; it is therefore probable that a Classic design will for every reason be most likely to find favour in the eyes of the judges, and therefore it is thought almost all the designs submitted will be Classic in *motif*. One thing only can be predicated of them. They will none of them be altogether pure in style. The Gothic men, if any such there be, will spice their designs with alien feeling; and the designs which emanate from Classic authors will be more or less, and probably more rather than less, free in treatment. The present men have neither the faith nor the learning of their predecessors. The last "Goth" who had the courage of his convictions died in sight of the completion of his greatest work, and he has left no successor, no one who will rise up and say as he said, "I believe in Mediæval principles and in them only; I have studied them with a life-long singleness of purpose. Here I show you of what those principles are capable. If you reject my design you are both blind and ignorant."

The Queen-Annists do not pretend to a belief in the *rationale* of the manner they practise: they cut in between an expiring Gothic and an incipient Classic. Some of them are very clever artists, and they succeed, as a rule, in imparting to an irrational and inconsequent system of design all the grace and interest of which it is susceptible. Like their brethren, they have been suckled in a creed outworn, and are merely an assemblage of clever and agreeable architectural agnostics.

It is, on the whole, a serious question whether this great competition delayed as it has been, has not come upon us too soon. The negation of all principles of architectural rectitude is not likely to result in a noble building. If, as is thought by some qualified judges, we are working our way through the mixed or bastard styles to an era of pure "Classic" art, it is to be regretted that the wholesome change had not been completely effected before so great a work had been undertaken. No great work has been effected without enthusiasm, and every *great* work reflects the personality of its author. The contagious enthusiasm of Pugin is seen in every line of the Houses of Parliament. The enthusiasm of a whole school is stamped on St. George's Hall at Liverpool; and the refined and scholarly Taylor Institute at Oxford reveals a burning page of architectural history. It remains to be seen what is *in* store for us at the hands of fashion-ministering and time-serving architects, who have no enthusiasm and no faith in the principles of their art, but are ready to adopt any style with cynical *sangfroid* at the dictates of expediency.

The irreligious, or rather non-religious, tendency of modern "thought," is modified by the momentum imparted by centuries of Christianity, and a similar effect on the architecture of the day, and that of the near future, may be due to the habits of study of our forefathers, the virtues of which we, in a measure, inherit. But as a day must come when the negative principle in religion will be brought unsupported face to face with the eternal problems of humanity and its needs, so a day is at hand when a race of young architects brought up without reverence for the higher principles of art will be unprepared and helpless, in presence of the demands made upon them. As we observed a week or two ago, in speaking of the Fitzwilliam Museum, there is so little study of Classic design now that it would really be difficult to find any one competent to add to Basevi's building in a manner evincing anything of the learning and refinement of the original; and matters will soon be little better in regard to Gothic work, properly so called. It may be that in both cases a brighter era is in store for us; that we are moving through decaying systems to a purer faith and a clearer view of social duties, and that through the destruction of the husk and shell of art we are journeying on to a better appreciation of its undying principles. But this is at present mere speculation. We have no warrant for the assumption. There have been times, as in the Middle Ages, when we were untroubled by any questions as to the soundness of the art we practised almost intuitively. And there have been times when we were untroubled by doubts as to the perfection and sufficiency of an adopted antique ideal. But there was never until now a time when all art was alike to us, and we had no exclusive faith in the special excellence of any; declining to pronounce any true, and by implication challenging the truth of each. "Unfaith in aught is want of faith in all." And the want of faith is Agnosticism in art,—as in religion.

THE INFLUENCE OF EVERY-DAY LIFE ON ART TEACHING.

ELIZA METEYARD, whom Douglas Jerrold so gracefully named "Silverpen," and whose subsequent contributions to the literature of art, have made her name widely known, in one of her suggestive stories, which led up to many of the social reforms of the present generation, pointed out that the artist received his inspiration from various sources,—some unexpected and some laboriously sought for. Some thoughts were born of study, others came like angels' visits from the unknown. The writer works this out very pleasantly when she pictures the dreamy designer seeking the spirit of beauty for which he yearned in the observatory of the astronomer, and finding it in the contemplation of the far-off bell-shaped nebula, with its stupendous suggestiveness of a thousand unknown worlds, whilst another found an ineffable grace and perfect symmetry in a many-hued leaf blown by the autumn winds from the hedgerow tree. The lesson sought to be inculcated was that there was no object so vast, and none so minute, in Nature, as to be destitute of beauty applied to a given purpose: therefore everything that Nature produces ought to be a lesson to the student, to be adapted and combined for the use and enjoyment of man. Nothing is produced in vain, everything has its special suggestiveness, if only studied in a spirit of intelligence, and worked out with care.

Miss Meteyard, who was an art-writer when Ruskin was a young student, and the Exhibition of 1851 was yet in embryo, did not confine her suggestions to the shaping of a teapot, or designing an inkstand. She pictured forth marvellous buildings in iron, and metal, and crystal, some of which have been, and others may be, amongst the novelties of the age. It is the fault of the present day to look at artistic productions through the medium of others' eyes. We do not think for ourselves, observe for ourselves: hence we are copyists, not originators. We adapt, not create, things of beauty.

Have passing events,—the show of yesterday,

* See Illustrations in present number.

or the possible circumstances of to-morrow,—any influence on the taste of the age? Take, for example, a mass of diverse objects like those so recently gathered together at the Fisheries Exhibition; though diverse they were congruous. They represented, as it were, a world apart, of which traces may be found in the objective treatment of art and architecture in the past. This has been a question discussed in artistic circles where decorator and architect meet. To many, perhaps to the majority, of the bustling crowds who thronged the galleries and halls at South Kensington, it was nothing more than an agreeable lounge amongst a collection of strange fishing gear. It is allowed that it may have a beneficial influence on the fisher-folk on the coast, and on the industry they pursue in so toilsome and dangerous a manner. The exhibition may have familiarised those who are inland bred with the appliances used by those who supply the soles and herrings, the cod and the salmon, to our breakfast or dinner tables; but it ought to have a wider and more enduring influence than this, if it has to maintain its excuse for being anything more than a sight and a show. It is true we know something more of the habits of the lobster and the oyster than before. We have learned to appreciate the difference in bulk between the mammoths of the ocean and the pert little stickleback which bites so greedily at the bait of an idle schoolboy. Apart from this, and granting the possibility of an occasional thought of how it illustrated the adaptability of many means to a given end, has it produced anything or suggested anything beyond the material idea of the unlimitable riches of the sea, and how readily and cheaply they can be obtained for the food of man?

It is true that the art-lover may have treasured up the delicate and varied hues of the sea anemone, and the intricate tracery of those marine plants which, we are told in plaintive language, "are not weeds, but flowers of the sea." The curves, volutes, and flowing lines of the univalves and bivalves have probably suggested the idea that the patient study and loving hands of the ancient sculptors and potters have not exhausted all the graceful and fanciful elegances of what bluff William Hogarth could see and denominate as "the line of beauty." The minutest forms of life dredged from the ocean's bed are found to have hues as varied and delicate as Orient pearls, when the deep sea plummet and the microscope have brought them within the ken of human vision. These contrast strongly with the fantastic contortions of the coral, yet each has its special purpose to serve in the economy of Nature,—each has some special beauty of its own to the eye of the art-student, and not to him only. The civil engineer who has to combat the forces of the wide and fierce wastes of waters and of the tempest may have found in these specimens of sea-growth models enough to suggest some fresh combinations of form and structure to withstand the force of the storm and the destruction of the elements. The marine engineer might find many valuable suggestions in the cumulative treasures of the deep.

Nor have these been altogether neglected in the past. The architectural student will not forget that the seafarers of the North largely influenced the life, manners, and customs of the British Isles. When they came hither they found the relics of Roman colonisation. There were buildings existing which partook in some degree of the majesty of those edifices which even yet adorn the banks of the Tiber. Our Saxon forefathers were not renowned as builders themselves; but they left the impress of their thoughts and habits on their monumental stones, on the crosses, and the structures they raised to glorify the new religion of the cross, and to shelter the holy recluse from the inclemency of the weather. In the regular coils of rope, in the twistings of the cable, and in the "serving" of their masts and yards, they found appropriate models for their piers and pillars as well as the ornamentation of their doorways and windows. They rudely carved the curves of the storm-lashed sea on their brooches and fibulæ. The monsters of the deep were shown in their midst, and the cordage with which they were so familiar was freely used in its convolutions, twistings, and turnings, alike in their delicate filagree work as in the larger buildings. The reason of this was obvious to those who closely examined the exhibits of Sweden and Norway. A distinguished archæologist pointed out that an exhaustive lecture on the germs of Saxon art could have been illustrated in those courts, for there were the crude ideas which the old carvers and artisans worked out and left as a legacy to posterity plainly visible. They could be discerned in the hanging-nets, in the knots of the cordage, and in the "laying" of the spare rope in the long-buried Vikings' ship. It was astonishing, when pointed out, how universal and widespread was the model of the fishing-net in ancient ornamentation by the maritime nations. It can be traced in the perforated timber work of the Chinese, and in the plastic ware of the Japanese. The Venetian glass-workers revelled in it, and the Mediæval architects used it in their diaper-work, in their groinings, and in their string-courses, frets, and guilloches to give a connexion and a completeness to work which, without it, would appear fragmentary and disjointed in detail. These examples show that the old art-workers took for their models the objects around them, and with which they were familiar. They did not adopt them in a merely conventional method. They used and adapted them as the need arose, and left them to show how much of the admired beauty of the art productions of the past are derived from an intelligent study of the objects around the everyday life of mankind. The old models, suggestive as they are, need not be imitated. Let them urge the student to fresh combinations and newer forms of beauty.

Whilst touching on these maritime productions and their relation to art teaching, it is remarkable how little the marvellous combinations of tint and colour in sea-shells have influenced our taste for colour in decoration. We have had symphonies in many hues, but the resplendent irridescence of many of the shells from the tropics and the Antipodes outrival the finest opal, and place the proverbial gorgeousness of the peacock in the shade. They show the chromatic scale in an almost infinite variety, and show those who are fond of colour-harmony what undreamed-of scintillations of beauty may yet be placed before an admiring and a critical world. As a school of form our sea-shells have been neglected. Too frequently they are hidden away in cabinets, or lie neglected in dusky cases in our museums. Skilled experts have not done justice to their elegant curvatures, or to their brilliant and delicate hues. We see them sometimes stuck together to make a tasteless wall ornament, where half their beauty is hidden and their loveliness dimmed by each other's attractions. These are amongst those objects that ought to be brought more frequently into our art-life, so that we may found a school which shall be to the future what Grecian, Roman, and Mediæval builders and art-workmen are to the present. We are hardly free from the leading-strings of childhood yet. We shall have to utilise our passing chances of becoming acquainted with the varied common objects of the world, ere we eliminate from the incongruous mass that beauty which is said to exist even "in the darkest night that clouds the sky," and to permeate the depths of the fathomless sea. It would, indeed, be pitiful if, in our absorption of art teaching in the schools, we neglected the passing and ever-varying objects in the kaleidoscope of every-day life.

THE EARTHQUAKE, THE ARCHITECT, AND THE MARINER.

WE have on more than one occasion called attention to the influence exercised on local styles of architecture by the frequency with which earthquakes occur in the various localities described, and have spoken of the principles on which the architect has endeavoured to resist, or to minimise, the effect of the shocks. These have been mainly three. In some countries, as in Southern Italy, great massiveness has been given to all important buildings, and the term of a century has been regarded as that for which to build, without incurring need of serious repairs. More to the south and east, in regions yet more haunted by the terrible scourge, the opposite plan has been adopted; and we find cities of reeds or of mats, that might almost spring up in a night, and that can overwhelm no inhabitants by their fall, if shaken down; although they are perilously exposed to conflagration, in case of overthrow. In Japan, again, the attempt has been made to provide in the structure of a building a sort of safety-valve in case of great agitation of the earth. Such was the intention of the "aseismatic joint," suggested by Mr. David Stevenson in the table supporting the lighting apparatus for the light towers which, in 1867, Messrs. D. & T. Stevenson were commissioned to erect in Japan. Of this contrivance the experience of Mr. Brunton, who was appointed chief engineer in February, 1867, was not altogether favourable. The French naval officers reported that the frequency of earthquakes in Japan was such as to forbid the use of stone structures for light-houses. Some very interesting details as to earthquake shocks are to be found in volume xlvii. of the Minutes of Proceedings of the Institution of Civil Engineers, in the report of the discussion, on November 14th, 1876, of Mr. Brunton's paper on the Japan lights. In the native architecture of Japan, what we should call a foundation is conspicuous by its absence. A Japanese house is essentially a large framed box, standing on a series of legs, which are not fixed to the ground, and often rest upon round-topped stones. Thus it is only by the fall of the heavy tiles with which the houses are covered that much damage is ordinarily caused by earthquakes in Japan. Dr. Dresser, indeed, in his book on the architecture, art, and manufactures of Japan, describes the construction of a sort of solid wooden pendulum in the centre of a wooden pagoda, which, he says, "by its clever construction is enabled to retain its vertical position even during the continuance of earthquake shocks"; but this theory has been so fiercely criticised, and so little defended or discussed, that we only mention it for the sake of reference, and as matter for further inquiry. Some of the Japanese buildings,—such, for example, as an Aino temple (figured No. 89 in Dr. Dresser's book), look to us more like the survival of nests, or platforms built in trees (of which we have a curious example in the neighbourhood of Cheltenham), than anything else.

Even those of our readers, however, who may have personal experience of the shock of earthquake, or who are aware with what extraordinary nonchalance the residents of Resina, of Torre del Greco, and of Casa Micciola, set themselves to work to repair the ruin wrought by the sudden and terrific energy, must feel that there is a limit to the resistance which can be offered by human skill and human resolution to the mighty wrath of nature. We have recently seen extracts from an account written by Captain Watson (of the *Charles Ball*) of the volcanic eruption in the Straits of Sunda, on the 20th August last, which appears to us to give a more vivid impression of the terrors of the scene than anything extant in literature, not excepting the well-known account by Pliny of the destruction of Pompeii. The perfect simplicity of the language and the quiet noting of technical details, such as the direction of the wind, and the angle of bearing of different points, gives a graphic vigour to Captain Watson's story that no rhetorical art could better. Having been personal witnesses of phenomena of alarming character,—such as the ink-black sky and the thick fall of ashes accompanying an eruption of Vesuvius, when no light was visible but the lurid glow of the mountain; and, again, such as a storm on the Mediterranean, when the lightning continued in one sheet of flame for many seconds together, and when navigation was arrested by the blinding light and the no less blinding darkness of the few intervals between the flashes,—we must yet admit that no European experience of the power of nature seems to us to come near the fury of Krakatoa. "The blinding fall of sand and stones," says Captain Watson, "the intense blackness above and around us, broken only by the incessant glare of various kinds of lightning, and the continued explosive roar of Krakatoa, made our situation a truly awful one. . . . At noon the darkness was so intense that we had to grope our way about the decks, and, although speaking to one another on the poop could not see one another. "At 11·15 there was a feaful explosion in the direction of Krakatoa, now over thirty miles distant. We saw a wave rush on to the Button Island, apparently sweeping right over the south part, and rising half way up the north and east sides. This we saw repeated twice, but the helmsman says he saw it once before we looked. The same wave seemed also to run right on to the Java shore. . . . . Passed Anjer at 8·30, name still hoisted, close enough in to make out the houses, but could see no movement of any kind; in fact, through the whole Straits we have not

seen a single moving thing of any kind, on sea or land." The accounts of the obscure halls of Pluto, as described by Virgil, and of the lurid glare of the "Inferno" of Dante, fall short of the terrible poetry of this seaman's log. We look in vain on the pages of either history or fiction for a counterpart of the passage of the *Charles Ball* through the Straits of Sunda during the eruption of Krakatoa. Involved at noon in impenetrable darkness varied only by the lurid glow of the volcanic flames, or by the rose-coloured "St. Elmo's Lights" that at times danced on the masts and yards; scorched at one moment by falling cinders; beaten, at another, by a fierce rain of tenacious mud; with her unanswered signals flying, and her crew hidden from one another as the gloom increased, the gallant little vessel bore all that told of life through the direful scene of the conflicts of earth, and sea, and sky; the one single moving spot, for miles of obscured course, in which human endurance held out against the wrath of nature.

INDIAN ART AND ENGLISH OFFICIALS.

THE announcement has been made that there will shortly be published a journal of Indian art. It is scarcely creditable to us, who have been now the undisputed owners of the Great Dependency for over a century, that it should have been practically left to this generation to interest itself in any special degree in the wide field of the artistic history of our Eastern Empire. Till within a few years the East India Museum was one of the familiar old-fashioned types of collections of "curiosities" brought together without apparently any direct aim, and arranged without method. Now, however,—and in a great measure, we owe the change to Sir George Birdwood,—the Indian Museum at South Kensington has become one of the attractions of the metropolis. Interest has gradually been awakened, and much invaluable information has been of late years gathered on the subject of the art and archæology of Hindustan, information which, however, has only proved how sadly deficient is our acquaintance with the curious chapter in the history of art which is revealed not alone by the existing monuments scattered over India, but also by the many industrial arts which still flourish in the peninsula.

It cannot be said to be to the credit of the officials whom year after year we have sent out from our country for now over a century, that it has been left to this generation and to other hands than theirs to explore a field of study which in itself offers so many features of interest. The names of Lieut.-Col. Cunningham, of Fergusson, and Sir George Birdwood stand out prominently alone, where they should have had at their side in a community like the Anglo-Indian,—enjoying such a singular amount of leisure,—a host of emulators and assistants. It is to be regretted that the Anglo-Indian as a rule should possess in so marked a manner one of the characteristics, we are afraid, of all our countrymen, a decided indifference to matters of art. How many of the crowds who yearly return after their regulation stay, and who are to be met with in every direction, bring home any information respecting the wonderful art of the Indian peninsula, or any other relics but perhaps some ill-chosen, ill-designed native imitations of debased European objects, or a collection of badly-selected photographs. The familiar discontent of the Anglo-Indians at their position on their return home would, we suspect, be largely compensated did they bring with them some slightly more satisfactory and profitable knowledge of the peninsula than what seems so invariably to consist in an acquaintance with certain social aspects of our English colony in the Great Dependency.

With the privileges and advantages at the disposition of the Indian official, be he civil or military, the smallest research could not fail to have discovered, at a time too when such objects were not so scarce as now, treasures of native art that can never again be produced. But it would appear,—only made, however, evident by recent exhibitions,—that the industrial arts of India are in a most flourishing condition, and still produce objects of the greatest beauty. These the mass of our inartistic, uncultivated Anglo-Indian residents would seem but in a very few instances to have appreciated.

Such a show,—small as it is,—made by the authorities of the South Kensington Museum in the new department lately opened, and among the "Recent Indian Acquisitions," reveals a singular wealth of active art industries still in existence in India, together with the natural accompaniment of a large number of specimens of antique art, which research has brought forth. It is not, of course, in the power of the ordinary resident to bring away such a treasure as the exquisite façade of the two Ahmedabad houses, which gems of polychromatic architecture form so choice a decorative feature in the new Indian Court; but the collection of photographs which the Indian Museum has gathered together forms a singular contrast in its artistic character with the usual show of photographs which our ordinary Anglo-Indian friends display on their return home. With the singular social views which in their mistaken research after refinement, it seems, are the sole subjects of interest among Anglo-Indians, such active and beautiful art-industries as those of the natives remain, of course, unpatronised by all but the more appreciative, and by them too often, as we see in the case of the Indian wood-carvers, directed unfortunately in the doubtful paths of European example.

It has been, it may be said, left to the present moment for those at home who have not enjoyed the still rare privilege of a visit to India to become aware of the existence of numerous native art-industries which merit the warmest encouragement. Among the "Recent Indian Acquisitions" now exhibited at the South Kensington Museum, the mass of textile fabrics and the richness in many cases of their design reveals a wealth of long and unsuspected decorative beauty still alive in the world, and the curious means of comparison afforded by the accidental juxtaposition at the Museum of the antique European fabrics and these modern Indian stuffs is most instructive. The embroideries from Chamba and numerous other districts of the huge peninsula, the peasants' costumes from the Punjab, all these, and innumerable other objects, are such as we should long since have been made thoroughly familiar with in our country. The rich yet simple native jewelry from Hyderabad, from Bombay, from Lahore; the anklets, chains, belts, earrings and toe-rings, amulet-cases, and chatelaines, reveal a further wealth of artistic objects of the most interesting nature, some ancient, some modern, while the native pottery offers forms of beauty, design, and colour which should not have been left till now unknown to our country, or rather alone known to the few. It is satisfactory to see that the recent productions of the Bombay school of art are most creditable and characteristic productions, quite worthy of the models on which they are formed, nor should the curious, and in many cases beautiful, if somewhat coarse specimens of native glasswork,—much resembling the ancient Roman,—be passed over in silence.

As for the wealth of old art,—industrial art that is, apart from the wonderful architectural relics,—still remaining in the peninsula, the richly-illuminated MSS., the jewelry, the carvings in wood and ivory, the stuffs, the pottery and metal-work, we leave it to those to judge what might be done who know what the artistic energy of this century has done to fill the museums of Europe and the New World; in this direction our resident officials might do wonders, armed as they are with so many powers denied to the ordinary traveller. As long, however, as the education they receive previously to their departure from home embraces no single element of respect for art,—still less of the art of the natives they are called upon to govern or protect,—as long as the decided tone of narrow-minded disrespect, or at the best, indifference for the customs and the art of the Hindoos, which is too often observable among Anglo-Indians, continues to exist, we shall remain ignorant of one of the most interesting phases of the development of classic art.

With the vast amount of leisure left to our army of officials out in India, those at home interested in the history of art cannot but be surprised at the indifference of those who are thus privileged to pursue an almost untrodden field of research, one too in which national pride should largely enter. To all in any manner familiar with the strange and interesting history of India, it must ever remain a matter of the profoundest regret that so little is yet known of the past and present civilisation of a country, of which we are the absolute masters, and which modern research has shown us to have been the cradle of a large part of the human race.

THE PRE-HISTORIC ART OF AMERICA.*

IN the Old World the line of architectural development can easily be traced from the primitive cave to the rough-hewn stone habitation eventually perfected in the art of Greece and the so-called Gothic days. Curious to say, in America, the oldest known architectural creations show no use of stone. From Canada to the Gulf of Mexico, from the Pacific coast to the Atlantic, the great races of the past have left us the evidences of their existence in a series of singular earthworks, fortifications, tombs of chiefs, and temples. Of the history or the origin of the "Mound Builders," as they are termed, nothing positive is as yet known. Their civilisation was an advanced one; they cultivated the soil, they worked mines, they were traders, as objects from most distant districts are found in their tombs; a canal of their construction, seventy miles long, connects the Missouri river with the great chain of the Lakes. Their mound buildings are planned on definite principles; the knowledge of measurement, of geometry, and of astronomy is clearly proved. The whole region which extends from the Alleghanies to the Rocky Mountains was covered with a series of fortifications, of redoubts and retrenched camps; each coign of vantage was carefully strengthened on the most approved military principles, casemates even having been built for protection against the only weapons used,—flint-headed arrows. Some of the mounds are gigantic, that of Cahokia being no less than 91 ft. high, with a base of 720 ft. by 560 ft.; and it is clear that these constructions must have required no small amount of architectural acquirement to plan and carry out. In Wisconsin, we meet with a most singular phase of this civilisation, mounds formed in the shape of wild beasts and birds whose wings reach 100 ft. apart; the Granville alligator is no less than 103 ft. long; the folds of the Brush Creek serpent in Ohio measure 700 ft. The pottery found attests the artistic development of the "Mound Builders," cups, ewers, plates, and vases of the most varied nature having been brought to light, the ornamentation in every case being of a regular and graceful nature; the handles sometimes represent animals, often human masks, but here we see betrayed the utter absence of a feeling for beauty.

Contemporary with the mound-builders lived, as far as we can judge, another very different race, who from the nature of their habitations have been termed the "Cliff Dwellers," occupying New Mexico. Their homes can only be compared to nests, perched as they are on the most inaccessible mountain-peaks; each platform being occupied and further protected by a series of stone-built dwellings cemented with clay, though occasionally sun-dried bricks are met with. Sometimes we find these dwellings grouped together into cave-towns, where the architectural dispositions are most curious; the rooms are very low, the windows small, the means of reaching the upper-story being by Robinson Crusoe's familiar method of the ladder, a precaution dictated by a similar fear of attack; indeed, as in the case of the inhabitants of Southern Madagascar (described not long since in these pages †), the same necessities led to the same means of defence. In the valleys under the protection of their towers rose,—evidently at a later epoch,—the "pueblos," some of which were still occupied when the Spaniards arrived in the New World.‡ Composed of a large rectangular space, the houses in the "pueblo" were sometimes built of stone, sometimes of sun-dried bricks, sometimes of a species of concrete formed of small flints, but always covered with clay. Sometimes we find the walls strengthened with timbers; clearly, as in the case of the homes of certain islanders in the Greek archipelago,—for protection against earthquake. The "pueblos" were important cities; one, near Aztec Springs, covering a superficies of some half a million square feet, and others even larger are known to exist. But the work of excavation and re-

* See p. 713, *ante*. † See p. 110, *ante*.

‡ An interesting account of a Zuni *pueblo* still inhabited recently appeared, it may be remembered, in the pages of the *Century* Magazine (Jan.—Feb., 1883).

search has so far been but very imperfectly conducted; much of the country where the ruins of this past civilisation strew the soil is occupied by warlike savage tribes, singularly opposed to the presence of the "pale face" among their wilds; the few explorers report, however, much of interest, "cartloads" of pottery are spoken of, and masses of flint arrow-heads; the ceramic art of the cliff-dwellers was even superior to that of the mound-builders, offering a surface covered with a silicated varnish of blue, black, and brown, occasionally red and white, the ornaments standing out in relief accompanied by decorations strangely resembling the conventional patterns of the Greeks.

From the cliff-dwellers we pass to the people who from the North swept southwards towards Central America. The Mayas, the Toltecs, and Aztecs, all belong to the one Nahuabl race, which has left in Mexico and Central America such a striking series of relics of its existence. What may be the link between these and the mound-builders it is impossible to say, but strong analogies exist in their architecture; but in the wonderful temples and palaces of Guatemala and Yucatan a great advance has been made. There, in these now fever-stricken, swamp-infested districts, lie prone the relics of a singular civilisation which has more than once aroused the awe and the inquiry of travellers and antiquaries. Stephens, among many other writers, long since described the marvellous and mysterious architecture of Central America, which still continues to mystify the archæologists; only within a few months a French explorer, M. Charnay, to whose researches reference has on several occasions been made in these columns, has returned from an expedition, a great portion of the expense of which was defrayed by Mr. Lorillard, the wealthy American, and has opened at the Trocadéro Palace in Paris a most interesting museum. But still the clue to the origin of this art remains unfound; some would see in it an outcome of the art of Java, which it singularly resembles,* others the creation of a state of civilisation similar to our own in many features, producing similar results; be this as it may, the huge and now ruined palaces and temples of Uxmal, Palenque, and Mitla, with their weird analogy to the art of Egypt, Assyria, of India, and of Greece, offer a field of inquiry which only further research can satisfy. The space at our disposal,—already so largely encroached upon,—forbids our entering more fully into any description of this comparatively familiar phase of American art; suffice it to have mentioned it as bearing on the gradual development of that art from the period of the cave-dwellers. Of beauty, we may in a measure say that the art of Central America, of Chili, and Peru,—with which it bears close analogies,—possesses little or no trace; yet recent research has none the less revealed,—as if to further puzzle the inquirer,—some few works of no small sculptural refinement.

Thus we see the imperfect chain of the artistic development of American art, following, as in Europe, each advance of civilisation; the same causes producing the same effects, with one feature, however, observable, the earlier development in Europe of a marked artistic taste. This and the facts so far gathered are all we know; for with the relations between the Old and New World prior to the so-called "discovery" of America we have but the vaguest acquaintance. In such a position theory can only offer its explanations. One of these was offered not so long since by, we believe, an American authority, in the suggestion that the classic Atlantis lies buried beneath the ocean which bears its fabled name, and that thence spread, east and west, a civilisation which would explain the analogies between the native art of America and the Old World. All, however, is conjecture, and must still so remain, till further investigation places fuller materials within the reach of the many earnest students pursuing this branch of inquiry on the further side of the Atlantic.

Stains for Wood.—In the revised list of the Jury Awards of the Amsterdam Exhibition, we notice "Stephens's Stains for Wood" have received a gold medal. This is the third gold medal awarded to Mr. Stephens, and the thirteenth highest International award received by him.

* See pp. 410 and 512, *ante*.

ENGLISH ARCHITECTURE AND MONUMENTS OF THE SIXTEENTH AND SEVENTEENTH CENTURY.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

At the fourth ordinary meeting of this Institute for the present session, held on Monday evening last, Mr. Horace Jones, President, in the chair,

Mr. E. J. Tarver, Associate, read a paper on "English Architecture and Monuments of the Sixteenth and Seventeenth Centuries." He said he had been led to the consideration of this subject by the course of lectures on the history of architecture which he is now giving for the third session to the students of the Architectural Association, with the object of helping them to prepare themselves for the Examination of the Institute, and for admission as Associates. He had found, when coming to the lecture on English Renaissance, a difficulty that always existed in pointing out a successive development of the features of this style,—if style it might be called, which combined the elements of two such antagonistic principles as were implied by Classic and Gothic design. At all former periods, after making due allowance for local varieties, the style throughout most countries,—or, at all events, large districts,—was more or less uniform, having been arrived at by a system of natural selection of obvious improvements as the need for them arose, and by a corresponding system of discarding such features and treatments as had been thus improved upon. In the period under consideration, on the contrary, architectural style was as much a matter of fashion as the literature of the day, and it had since then gone through more astonishing changes than were ever dreamed of even in the most fanciful days of James I. It would be admitted by most, though not by all architects, that the Gothic style as it existed at the beginning of the sixteenth century was capable of improvement,—at all events, in its details. Whilst recognising the great merits of the general designs of a building as a whole, and the care and forethought exercised in arranging the various threads that were to spread over a church interior from floor to roof without a single breach of continuity, it would be found that this system was the result of calculation rather than imagination, whereas both these elements are necessary to good architecture. Sense appeared to have been deadened in detail even more than in mass, as might be seen by the heavy and "lumpy" treatment of the canopy-work of Bishop Alcock's Chapel at Ely Cathedral. Whence was the improvement to come? A comparison of this chapel with the companion chapel at the opposite side of the cathedral, erected by Bishop West, would prove that it certainly had come, in the course of thirty years, and in the shape of a finer sense of form acting upon the very same Gothic features that were then in vogue. The very plan of the pedestal was poetical as compared with those of its neighbours, and this feeling seems to have been carried throughout the whole treatment, even to the section of the mouldings. The explanation was that a new influence had been at work in the meantime, as might be learned from the late Sir Digby Wyatt's paper, read before the Institute in May, 1868, entitled, "The Foreign Artists employed in England during the Sixteenth Century and their Influence on British Art." * This employment of foreign talent was a luxury indulged in chiefly by the rich; so it was not surprising to find that it escaped the architecture of out-of-the-way places, and that a style which cannot be called anything else than Gothic, however debased, survived in such places even up to the last century. Amongst the works which might be classed as luxuries are sepulchral monuments, and it appeared to the lecturer that, if any successive fashions were followed, they would be recognisable in these, which are, in many cases, architectural compositions; and further, that the headquarters of such fashions would be in London, and especially in Westminster Abbey. He had, therefore, looked about for a chronological list of these monuments; but, not finding one, compiled such a list from the little guide-book which is said to have received the approval of the late Dean Stanley, and then went steadily through the list, and visited each monument in order, noting the fresh features, not of the figures, but of the architecture, as they appeared to have been introduced. In doing this, a fair margin had to be allowed for the time that elapsed between the death of the individual and the erection of the monument. Thus, when copying the date off a building, you know where you are, but the date of a monument is not conclusive evidence. In this dilemma, the lecturer applied to Dean Bradley for permission to see any register that might have been kept of the erection of the monuments, and was referred to the chapter clerk, who, however, was unable to help him. Assuming, however, that the monuments followed, on an average, within a few years of the death of the individuals, there was a fairly consecutive series to judge from. Mr. Tarver then proceeded to enumerate the monuments and their particulars, and afterwards compared them with the architecture of the period with which they were contemporary. Mr. Tarver incidentally expressed his indebtedness to Mr. Wyatt Papworth's useful compilation, "The Renaissance and Italian Styles of Architecture in Great Britain," &c., reviewed in our last number (p. 806).

* See *Builder*, vol. xxvi., pp. 423, 443, 566, 628.

Mr. Wyatt Papworth, in moving a vote of thanks to Mr. Tarver, said the collation of monuments which he had made was very novel and most interesting. He (Mr. Papworth) had often thought that the subject might be so treated, but he had never attempted to enter upon the task. While, however, Mr. Tarver had described the monuments of the period very fully, he had scarcely devoted a sufficient portion of his paper to a comparison of them with the architecture, and, indeed, he had hardly done justice to the latter, for he had not referred to buildings enough of sufficient importance or rank to be classed with the most important of the monuments which he had described. Whilst he (Mr. Papworth) was compiling the little work of which Mr. Tarver had made mention, he found no traces of the names of the designers of the monuments, although in some few cases he had come across a supposititious name. Not that all the works attributed to a man were rightly attributed, for John Thorpe and Inigo Jones were erroneously credited with many buildings in which they had no hand. As to the authorship of the monuments which Mr. Tarver had described, he thought they were all done by carvers, or sculptors, as they would now be called; he did not think they were designed by architects.

Mr. E. C. Robins seconded the vote of thanks, observing that Mr. Tarver had remarked that he only knew of one specimen of domestic architecture in which mullioned windows were used by Inigo Jones; but he (Mr. Robins) could name another, viz., Bibury Court, in Gloucestershire. The plan of this building resembled the letter E, the central limb forming the porch. One wing was left as it was built in the Tudor period, but the other wing and the centre had been rebuilt by Inigo Jones, and it was curious to see how he had adhered to the main lines of the older portion of the building, using, in fact, identically the same features, but Classicising them.

Mr. F. T. Dollman said that one point to be remarked in reviewing sepulchral monuments was the various changes of posture which occurred in the figures or effigies. Up to the time of the great religious convulsion of the sixteenth century the effigies were always recumbent, with the hands in the attitude of prayer. After that period the figures began, as it were, to move, and were found lying on their sides. Later on, and before the idea of devotion had disappeared, family monuments were made with the figures kneeling,—the father in the midst of his sons and the mother with her daughters. The kneeling attitude subsequently gave way to that of figures reclining in an attitude of what was meant for meditation, but which (with the hand held up to the face) was rather suggestive of toothache. Then we came to the period of the long-flowing wig and the Roman toga, and to figures in a sitting posture, as in the monuments of Lord Mansfield and James Watt, until at last the figures rose up and became erect statues. In connexion with this subject he had often thought that the gradual change of the inscriptions on monuments, from the brief and simple earlier ones in Norman-French and Latin to the later, longer, and fulsome ones in Latin and English, and to the ribald effusions of the last century, would afford an interesting study from an archæological point of view.

Mr. C. F. Hayward said Mr. Tarver had by his researches among the tombs well qualified

himself for the membership of the society lately established in Norwich for the preservation of the memorials of the dead. The neglect of important sepulchral monuments, even in churches which had been restored, was very much to be regretted, for the inscriptions on them were often of great value and importance in clearing up doubtful points of history or genealogy. The neglect of these monuments was nowhere more apparent than in churches which had been left stranded and isolated, so to speak, by the receding from them in modern times (chiefly owing to the influence of railways) of the towns or villages of which they had formerly been the centres. He could have wished that Mr. Tarver had said a little more about the use of terra-cotta for the effigies of the sepulchral monuments of the Renaissance period in this country. One remarkable instance of the use of terra-cotta as a material for architectural detail during that period was to be seen in the remarkable tower at Layer Marney, in Essex, and another instance was Sutton Place, near Woking, in Surrey. In the tower at Layer Marney the windows were all mullioned, but instead of being of Gothic form the mullions consisted of terra-cotta pilasters with arabesques running up the sides, and the tracery was formed of dolphins and other things instead of the usual forms, whereas at Sutton Court the Tudor cinquefoil heads were correctly moulded in terra-cotta. The parapets also at Layer Marney were very peculiar, being formed of dolphins. He had been very much struck during the last few months by seeing the mixture of Italian detail with Gothic forms in the tombs of Prior Draper and the Countess of Salisbury in Christchurch Priory, Hants, which were both dated within the first quarter of the sixteenth century. He should be glad of any information as to whence the terra-cotta used at Layer Marney had come. Was it produced in the neighbourhood, or was it imported from Italy? He and a few others had been for some time seeking for evidence of the local production of the material, but without any success.

Mr. McLachlan remarked that the introduction of Renaissance architecture into Scotland was rather earlier than its introduction into England, and Heriot's Hospital, Edinburgh, might be cited in support of this view.

Mr. Ewan Christian thought it most probable that the terra-cotta used at Layer Marney was produced in the immediate neighbourhood, because the district had always been a noted one for moulded brick and terra-cotta work, from the thirteenth century down to the seventeenth. He (Mr. Christian) had found, quite perfect, terra-cotta mullions and other details in old churches; and in the ancient Church of Coggeshall, particularly, there were some beautiful details dating from the thirteenth century in terra-cotta. Whether artists had been brought to the district from Italy to execute some of the finer work mentioned by Mr. Hayward he could not say. Mr. Tarver's paper only afforded another proof of the great variety and interest of the architectural and monumental remains of this country, which, although a mere speck in extent when compared with the vast Continent of the West, contained so much that was of interest to the architect that, although he had been travelling up and down the country in every direction for the last forty years, he was perpetually lighting upon something new and interesting. The examples of sepulchral monuments to which Mr. Tarver had referred were necessarily only taken from a very limited district, but such monuments, many of them of great beauty and interest, abounded all over the country, and it was very greatly to be desired that they were more generally properly cared for than was found to be the case in his experience. The fact was that even where the representatives of the family of the persons commemorated by the monuments were accessible, the churchwardens often found it a very difficult matter to get them to keep the monuments of their ancestors in repair, and the consequence too often was that the monuments were left to crumble away by degrees.

Another speaker said he understood Mr. Tarver to raise a question as to the authorship of the monument to Thomas Richardson in the north aisle of Westminster Abbey. It was by Lesueur. As to the terra-cotta effigy of the monument in the Rolls Chapel referred to by Mr. Tarver, there was reason to believe that the features and drapery were coloured.

Mr. R. Phené Spiers suggested that a comparison of the monuments referred to with the large and stately marble chimneypieces in some of the chief domestic buildings of the period under review would be very instructive. Such a comparison would, he thought, raise the question whether the tombs and the chimneypieces were not the work of the same set of men, "carvers," as they were then called. He was afraid that there were very few of the architectural sculptors of the present day who could turn out such work, for the men who executed these monuments were evidently men of good architectural knowledge. As to Longleat, he believed that when some members of the Institute visited it a few years ago, it was suggested that although the drawings from which the building was erected were by John of Padua, they were really intended for some other building, but that, being acquired by the Marquis of Bath, he employed John Thorpe to carry them into execution. He believed it was now admitted that something of the sort took place.

Colonel Prendergast, Hon. Associate, in supporting the motion, said he thought the statement which had been made that the monuments described were not the works of architects was open to very serious question. If they were not by architects, they were certainly designed by men who had very good architectural knowledge. There was no question about it that those who gave orders for these monuments were deeply imbued with the Classic science and education of the time. We in the present day were gradually beginning to go back to studies of that description, and therefore the time of the meeting had been profitably occupied in listening to and discussing Mr. Tarver's paper.

The Chairman, in putting the vote of thanks (which was carried with much applause by the meeting), said it had been stated to be the case with regard to Longleat that the plans were obtained by the Marquis of Bath from John of Padua, and that they were carried out by John Thorpe. That was a very curious circumstance if true. It had been suggested that John of Padua and John Thorpe were one and the same person. Probably this suggestion was due to the fact that Thorpe had travelled to Italy, and obtained employment as a workman in Padua. Mr. Phené Spiers had with justice pointed out the resemblance of many of the monuments which Mr. Tarver had described to the chimneypieces of some of the great houses of the period. With regard to the manufacture of terra-cotta in this country, he might say that there was a brickfield near Kingston which belonged a great many years ago to a man named Waghorn, who used to claim that the terra cotta used at Hampton Court was obtained from that field.

Mr. Tarver having said a few words in reply, the meeting terminated.

CONTINENTAL NOTES.

WITHIN a few days of each other, while one great European capital, Vienna, has added to its already long list of public buildings Herr Hansen's superb Houses of Parliament, another capital has seen its monumental Parliament-house burned almost to the ground. The nearly total destruction of the Belgian Palais de la Nation, overlooking the pleasant little Park, will be regretted by all who know Brussels, not perhaps as an irreparable artistic loss, such as would have befallen Belgium and the world by the disappearance of the quaint Hôtel de Ville, but still as a characteristic feature of a very characteristic city. Godecharle's reliefs in the pediment of the monument,—not so much injured as was at first believed,—just a century old, like the palace which they adorn,—erected by Maria Theresa,—are typical works of the eighteenth century, which, though it is now so much the fashion to admire it, was not exactly admirable in all its creations. The injury to many of the interesting pictures, portraits, and statues with which the Belgian Chambers have been most generously adorned within the short half-century of Belgian existence, is, perhaps, the most to be regretted, though we learn that a number of Gallait's works have been saved. In the meantime that much-abused monument, the new Palais de Justice, promises to be able to accommodate the burned-out deputies,—doubtless in the huge Salle des Pas Perdus (which seems to be regarded by the German critics as more remarkable for size than for other merit). Such, at least, is frankly the opinion of M. Verhaegen, who, in the current number of the *Revue Générale*, devotes a lengthy and interesting article to the subject of Poelaert's grandiose design. "Not national, not rational, and not beautiful," is the sum total of this latest critic on the general effect. "When I think," recently remarked a witty Belgian judge, who, like our own Lord Coleridge, had been inveighing against his new home, "that there are persons who call the Creator the great architect of the universe, I hardly think that the compliment can be said to be flattering."

From the banks of the Danube we shall soon, we suppose, have to listen to similar complaints against Herr Hansen's new Reichsrath gebaüde or Houses of Parliament. For a long time past, in spite of the eminently pictorial effect of the long colonnades and the army of statues which have given the Franzen's Ring so Classic an aspect, there have not been wanting critics to raise their voice against the new monument; but who in such matters can expect to content every one,—particularly critics in matters architectural?—though it may be remarked that probably no city in the world more than Vienna can be said to have more generously endeavoured to satisfy the rivalries of all the schools, for in the mile or so of the Franzen's Ring in which are gathered the chief modern buildings of "new Vienna" can be seen side by side specimens of the architectural styles of all the typical periods, commencing with Ferstel's exquisite Gothic "Votiv Kirche,"—with Barry's Houses of Parliament admittedly the most satisfactory creation of modern Gothic; next to it, and also by Ferstel, let it be remarked, the new University, in pure Italian Renaissance; then the Gothic Rathhaus, the Town-hall, by Schmidt, only opened a few weeks since; opposite, but not yet completed, the new Burg Theatre, a monumental Renaissance design by Semper and Hagenauer; a little further the Renaissance Courts of Justice, a line terminated by the new Houses of Parliament in the Greek style by Hansen, and, at no great distance down "The Ring," the new museums by Semper in Sansovinesque Renaissance, which, it may be remarked, decidedly carries the day in Germany and Austria. And yet in spite of all this lavish beauty, who that knows the lively Austrian capital can fail to have been struck by the sense of dusty vacuity which strikes the stranger's eye, everywhere in "New Vienna," outside the busy narrow quaint old city, crowded within the circumference of "The Ring."

It is no far cry from Vienna to Constantinople: only a few weeks since the Viennese were celebrating the two hundredth anniversary of their deliverance from a Turkish siege. A traveller and a brilliant author who, many years ago, while the memory of "Eöthen" was still fresh, gave the world a charming picture of the East, M. Edmond About, on the return from a recent visit to the shores of the Golden Horn, tells us that the condition of Sta. Sophia is positively heart-breaking. The tale he brings of the shameful manner in which the sacristan sells to strangers the cubes of mosaic stripped or fallen from the walls, corresponds exactly with the experience of more than one English traveller, and shows how vast must be the destruction that is going on in the wonderful old building. Though the Mussulmans, it is true, have left standing the lines of columns borrowed, at least let us say, taken in every direction from the temples of Greece, of Asia, and of Egypt, the fanaticism of the Turkish conquerors and the fatal effects of neglect and time have worked sad havoc in the monument; the arcades and walls have had to be propped and shored up in the most primitive manner, iron and bronze clamps of the rudest nature being freely used. "The day is approaching," writes M. About, when Sta. Sophia can only be saved by a complete restoration. Can we expect the Turks to undertake such a task? Never." All who know the East are aware that restoration, even in its best form of conservation, is but little practised there; it should be remembered that what has been done in Egypt has been due only to the energy and constant supervision of English and French antiquaries. M. About looks forward to Russia as the only power which can carry out the work; but here, as he amusingly remarks, his archæology becomes somewhat revolutionary; to demolish an empire to repair even the temple of Holy Wisdom, is, it will be admitted, rather stretching a point. M. About, while in Constantinople, visited, he tells us, the interesting museum which has been formed within a few years past

by Hamdy Bey, son of the present Minister of the Interior, and holding the appointment of director of the Imperial Museums. Small though the new collection is,—and we English, the Germans, and France, have, it will be admitted, rather successfully carried off within this century nearly everything of any value,—it yet contains much that is curious; terra-cottas, fragments, and other classic relics which the director hopes before long to further increase by the results of the excavations now being conducted by him in the Tomb of Antiochus, buried, it appears, in the snow, some 6,000 ft. above the sea-level. An enthusiantic antiquary, Hamdy Bey, if he can scarcely show such classic marvels as London, Berlin, or Paris, has succeeded in bringing together an interesting collection of smaller specimens of the Arabic and Turkish industrial arts, Mediæval lamps from the mosques, furniture, arms, tissues, metalwork, and so forth, which, spite of deficient funds, constitutes a very promising commencement. The Germans have, it appears, contributed some casts from their wonderful excavations at Pergamos, and the Louvre has also presented a number of casts of their treasures, but England, so far as we are aware, has not in any way paid back its debt of gratitude to the country from which our museums have obtained such treasures. Surely some valuable exchanges might be made by our South Kensington or British Museum authorities. The school of design which M. About also visited appears to be in a satisfactory condition, some twenty young Turks busily studying, according, of course, to French methods. Is this, to borrow a Transatlanticism, as it should be, and is it not worthy of being compared with a recent and a very wise step taken by the Japanese Government in closing their new art schools when it was found that the students were merely preparing to become very tenth-rate artists of the decidedly French stamp?

With Constantinople and its relics of the Byzantium of the Lower Empire which has been, within a short time, so picturesquely brought before the London theatrical public at that old home of Charles Kean's spectacular triumphs, the Princess's Theatre, there is a bond of something more than mere historical interest in the series of excavations which are at the present moment being conducted in Rome. The visitor to the city of the Seven Hills, who devoutly drank of the fountain of Trevi a year back, will find great changes by the banks of the Tiber on his return this winter. Under the enthusiastic direction of Signor Bacelli, the Minister of Public Works, Rome promises to become even more than it so long has been, one huge museum of antiquities. We hear, in fact, of an intention to transform a great portion of the city into a second Pompeii, and the enterprise is no easy one, it will be admitted; millions of cubic yards of earth will have to be removed; new means of communication will have to be opened between the Trastevere side of the river and the city proper, while the expense will be no small matter. But the work has been well commenced. Happy visitors to Rome will find no longer, as they remember, the Farnese-gardens on the site of the Palace of the Cæsars; they have disappeared in conformity to the new Minister's plan of uniting in one huge group the whole mass of monuments which lie scattered round the valley of the Colisseum and the Forum. It is true the whole of this portion of the city has been already well explored, but only with a view to the discovery of any works of art which might have escaped from the destruction of wars and time; hence though such discoveries are scarcely looked for, much of antiquarian and classical interest may be expected to be brought to light. Rome, like the Troy of Dr. Schliemann, is composed of several cities built one above another, and the general excavation which will be necessary to carry out Sig. Bacelli's grand scheme cannot fail to unearth much of the utmost interest. But, as we have already remarked, discoveries of any great artistic treasures can scarcely be expected. Ransacked and rifled by Barbarians and Barberi, as the witty Roman proverb has it, alluding to the wholesale use of the classic temples as marble quarries by the Popes and Cardinals of the Renaissance, Rome has in store, we are afraid, no new Laocoöns to set the bells a-ringing on their discovery, though doubtless many finds will be made of the nature of the interesting marble vase now shown in the Capitoline museum, the patched creation of seventy-two fragments found scattered about the walls of a vineyard demolished in the recent formation of the new neighbourhood of the Esquiline.

A correspondent has communicated the admirable series of regulations which, by a recent decision of the Paris municipal council, require the roof of each house to be provided with a practical pathway for the use of workmen and firemen, as also a serviceable fire-escape.* Though our Parisian neighbours are visited by fires far less frequently than ourselves, owing, doubtless, to the superior solidity of their stone-built houses, yet the municipality must be given no small credit for the attention paid yearly to this most important question. In addition to the architectural regulations above alluded to, and which are certainly worthy of consideration by our own Board of Works, it has been recently determined to build, on a sumptuous scale in the centre of Paris, a completely organised head-quarters for the fire-brigade. The site chosen is under the very shadow of Notre Dame, and, in addition to sweeping away a number of old streets,—more familiar, perhaps, to the world through the pages of Eugene Sue than through actual acquaintance,—the erection of the new barracks will include the re-construction of the Morgue. Another corner of Old Paris will thus, before long, have been swept away, and, we suppose, according to some critics, the French capital rendered even more "plain" than it is by the destruction of a series of unhealthy rookeries and the addition to the public buildings of two completely organised institutions which we may well envy our neighbours.

THE WEST SIDE OF WESTMINSTER HALL.

On this subject an interesting and valuable paper was read by Mr. Somers Clarke at the meeting of the Society of Antiquaries on Thursday, the 13th instant. After some preliminary remarks, Mr. Clarke proceeded to name the sources of information on the subject. First stands vol. iii. of the collection of Sir C. Wren's drawings in the library at All Souls', Oxford. Every one knows, as a matter of course, that there are several drawings relating to St. Paul's Cathedral in that collection, but in addition to these are sundry others showing works, projected or carried out, at Hampton Court, Windsor Castle, St. James's and Kensington Palaces, the Houses of Lords and Commons, and elsewhere. The cataloguing is very imperfect, and the ascriptions are in some cases quite ridiculous.

The plan No. 10, vol. iii., is, however, rightly described as of "Old Record Room at Westminster."

Looking through the volume on Saturday week last, I lighted most unexpectedly on the drawings. In addition to these plans, numbered 10 and 11, there are several of lesser size, but hardly less in interest, which are numbered 17, 21, and 42, and have on them many notes and measurements. They are indeed not unlikely to be in part the originals from which Nos. 10 and 11 were drawn out. They show more completely the position of the windows, &c., in the west wall of the building attached to the west of the hall, and the foundations of which are revealed by the recent excavations.†

Another source of information is a plan drawn in pencil and contained in a large volume in our library. The volume is labelled "Westminster Houses of Parliament." The plan is in pencil, and on the back is written a reference to Mr. Capon's engraved plan, vol. v., "Vetusta Monumenta." It would appear that the plan in pencil is in some respects at least an original from which this valuable engraved plan is compiled. The engraved plan in "Vet. Mon." bears on its face a statement that it was measured and drawn between 1793 and 1823. There are also three or four pages of notes and remarks accompanying this plan.

A comparison of these plans at All Souls' and that in our library shows some variations of considerable interest. In the Crace collection at the British Museum, amongst plans, Portfolio XI., is a drawing of value, as it is dated, and bears the following,—"Apl. 2nd, 1795. Copy of Mr. Soane's plan, del[d] to Mr. Harrison at the Land Revenue Office, this day, by Thos. Chawnis."

This plan is in many respects the same as the plan in pencil in our library; but being as it is, partly tinted and written to, it becomes a more valuable document.

There are other maps and plans which show the arrangement of the west side before the recently-demolished law-courts were built, and some of Soane's, published in the most handy form, in Brayley & Britton's "Westminster," a book very well known.

There are many engravings extant which have been consulted, chiefly of the front of Westminster Hall, but I have not found any to throw much light on the part under consideration. It is clear that for a vast length of time this side has been more or less enclosed in a series of courts and back-yards,—indeed, I doubt not that it was so from the first. It would appear that we are going quite away from the original intention of the builder in throwing open the whole side of the Hall. Its very office as a hall, judging by the way in which we know these portions of a residence to have been used, would suggest that it was always more or less surrounded by buildings. A good plan, to a small scale, is shown in Smith's "Antiquities of Westminster," facing p. 125. It shows the general disposition of the adjacent buildings previously to the construction of the Law Courts recently removed.

From documentary evidence we must now pass to that afforded by the remains as they show themselves at the present moment. These remains as they stand are the more important from the fact that whilst teaming with evidence of many changes in the course of their existence, even the repairs necessary to maintain them in a state of reasonable stability must probably efface some pages of history. Any attempt at a restoration, in the ordinarily accepted sense of the word, must result in wholesale destruction and falsification. The remains consist of a vast wall, forming the western side of Westminster Hall, and certain huge buttresses with their abutments, which help to sustain the great roof. Traces of foundations between these abutments have recently been found, and the plans to which I have referred make it evident that a long range of buildings existed against the west side of the great hall. At the north end there are evidences of walls running westward, and these, doubtless, formed the substructure of important buildings. Mr. Micklethwaite has already stated his views as to the setting out of William Rufus's great hall. The wall now laid bare is, by its masonry and material marked of Early Norman date.

The Norman wall is built of wide-jointed masonry, and shows an intermixture of two sorts of stone. It would almost appear as though the builders had valued the effect so produced, making an imperfect chequer-work on their wall. A little above the original external ground-line, and some 5 ft. below the present surface, is a plain chamfered plinth, which returns round a series of slightly-projecting pilaster-buttresses, which are set at an average distance apart of about 17 ft.

In his alteration of the hall, Richard II. did not make his great roof trusses quite to accord with this system of subdivision. He erected a vast flying buttress and massive abutment to resist the thrust of each alternate truss. Each division thus formed I have called a bay. The whole length of the hall as we now see it, is therefore,—beginning from the north,—divided into six bays.

To return to the Norman work and pilaster buttresses, it is to be noted that in the first bay one does not appear. There is no indication that it ever was there; the plinth, moreover, runs on as though the wall were intended to have an external face all along. On the other hand, the wall at the extreme north corner is clearly Norman, and returns westward. It looks on its south and only visible face like internal work. Following this wall along to the west we meet with a broad foundation, and once more a chamfered plinth appears on the north face. This plinth is 11 in. below that on the hall. The masonry does not seem to me to be altogether Norman. It may be Norman repaired, or later work built in part with some Norman stones. South of the last described wall, and with the Norman plinth returning on it, lies a foundation of a parallel wall. We know, by old prints and plans, that a range of buildings stood along here. Hollar's view plates in Smith's "Westminster," &c., show

* See *ante*, p. 771.

† The date of these plans I take to be at the very end of the seventeenth century. I have not had the good fortune to meet with any others that go so far back.

us the appearance of the north front, a three-storied building with Tudor windows. It ended westward in an octagonal turret,—the parent of that now, alas! gone. The plan in "Vetusta Monumenta," vol. v., and that of 1795 in the Crace collection, bears the name of Court of Exchequer in this part. The court extended northward beyond the line of wall, and a row of pillars are shown as having the wall for their foundation. It is to the presence of a building against this first bay in Norman times that I attribute the absence of a pilaster buttress. In "Archæologia," vol. xxvii., Mr. Sidney Smirke's longitudinal internal elevation of the Hall shows a round-headed doorway at the north-east end of the wall. He implies that there was a similar one opposite. The Palace undoubtedly lay chiefly to the east of the Hall, but, with screens covering the doors, as was usual, the kitchen would possibly lie to the west. These walls may mark the site of the kitchen.

In the remaining five external bays of the Hall there do not appear evidences of Norman foundations of buildings touching its walls. We must now examine the later work.

The letters patent of king Richard II., Jan. 21st, 1394, are extant, and direct John Godmerstone to repair the Hall. The walls were to be heightened 2 ft. Directions are also given in connexion with the internal work and roof, but our present concern being with the exterior of the building, we are only interested with the roof so far as it became necessary to resist its thrust by the construction of flying buttresses and abutments. These fortifications of the fabric were not, however, considered sufficient, but, as the side elevation of the Hall shows, a curious system of arches, two stories in height, was set up, springing from the Norman pilaster buttresses, and forming a species of thickening over the whole lower face of the wall. The arches are in parts roughly bonded into the Norman wall face. They have in some cases sunk away, to a slight extent, from the Norman work; and where the lower range has been removed the evidence of their previous existence is almost effaced, saving by the springing-stones. They bear a hollow chamfer on the angle. It may be doubted whether this skeleton was ever of much value, but a species of engineering in stones, and often most wonderfully ingenious, was not unfrequently resorted to, to strengthen already existing work. The interior of the centre tower at Lichfield, below the spire, or the lantern tower of Lincoln Minster, are notable examples.

Whether the pilaster buttresses were originally carried upwards or whether they were raised by Richard II. is not now easy to tell. The modern recasings have obliterated this part of the history most effectually. We now find ourselves in front of the hall, with its walls 2 ft. higher than before, its new roof, windows, wall thickening, and great buttresses. This, however, was not all.

The abutments of the great buttresses were joined together by a continuous wall. As soon as the abutments were exposed by the recent demolition, it became clear by the marks on them that a leaden roof had extended back to the wall of the great hall. The returns of the parapet were clearly to be traced, especially on the most southern abutment. The greatest difficulty presenting itself is that the roof must have sloped a little towards the hall. It is not evident, therefore, how the rain-water was disposed of. Recent excavations have not, I understand, thrown any light on this matter.

Whether the line of building parallel with the hall was in one or two stories is not clearly to be traced. The lower part of the first abutment has some points not to be explained.

Sir C. Wren's plans show the west wall of the hall, as also the parallel wall to it, all coloured yellow. It would seem that the plans were prepared so that a scheme could be made out for joining some new work to the old, coloured yellow, the new being tinted in Indian ink. In this second bay from the north the line of west wall is broken, and a large room is shown with three mullioned windows. On Drawing No. 17, this is called the Chief Justice's room. Elsewhere it appears as Queen Elizabeth's bed-chamber. No access is shown to it. Bays 3 and 4 are, on Wren's plan, occupied by a long room. It is called the Treasury Record room. A large external staircase is shown, leading apparently from what was known as "The old fish-yard." A small stair leads from the hall. The way in which it is drawn makes it probable that this stair shows a rise from the hall level. The Norman work is in bay 3 much cut about. In the fifth bay, a similar stair rises from the hall. A solid wall is shown in Wren's plan (the foundations remain) separating bays 4 and 5. The extreme south end of the attached building, Bay 6, is marked as Captain Turner's, and on Plan 16 is called warehouse over cellar. Indications on plan 17 also show distinctly that when it was made the building was in two stories. The large ogee-headed doorway in the third bay is not shown on Wren's plans.

In a plan by Thos. Lediard, stated thereon to have been surveyed in 1740, the doorway appears, and gives access to a large room breaking the general wall line. It is the only doorway shown in the side of the hall. In Fourdrinier's plan, dated 1761, this building is called the New Court.

In Mr. Soane's plan already referred to, dated 1795, this room is called "Court of Common Pleas," and a circular staircase appears right and left of the large doorway before mentioned. These staircases also appear on the pencil plan in our library; but are not upon Capon's plan in "Vet. Mon.," vol. v. The doorway is of a strange style. The section of the jambs and mouldings is a travesty of Classic work. In the apex of the ogee arch is a large Tudor rose; but, to use a favourite modern phrase, very freely treated. As in the abutment between the second and third, so in that between the fourth and fifth bays, a garderobe appears, and is evidently a part of the original construction. At the time the lately-demolished Law Courts were built the side of the hall was very roughly treated.

Not less than four large doorways were pierced through the massive wall. The ogee-headed doorway was filled in and masked by fresh-coloured stonework, and a doorway was also made at the extreme north end of the wall.

I would suggest the following as the result of my examination. That at the time the Hall was brought to its present form, not only were the flying buttresses and their great abutments built, but a wall rising as high as the cills of the great hall side-windows was also built at a distance of about 18 ft. from the great hall joining these abutments. This building was probably two stories high, *i.e.*, a cellar or low story, and a more important one above. There is no evidence whatever to show what the wall was like. Sir Christopher Wren's plans, Nos. 17, 21, and 42, show imperfectly the position of sundry windows, but give no indication as to their antiquity. We must, however, fear that by laying bare what was never intended to have been completely thrown open a ghost has been raised which can, I believe, only be properly laid by following the advice of Sir Charles Barry, and completing his beautiful building as an enclosure to this mighty skeleton.

[At the same meeting, and previously to Mr. Clarke's paper, Mr. Edwin Freshfield exhibited and commented on rubbings of masons' marks on the west wall of the hall, which had been collected by Mr. Clarke; and Mr. Micklethwaite read a short paper on the Hall in its Norman form, raising a question on the irregularities of spacing of the large windows, which led him to believe that the first design had been considerably altered not long after its completion.]

THE INSTITUTE OF PAINTERS IN OIL-COLOURS.

The Galleries belonging to the Royal Institute of Painters in Water-Colours seem to be intended in winter to become the scene of an exhibition of cabinet pictures, or, at all events, mostly moderately-sized works in oil. We welcome this decision for a double reason; first, because we feel sure the rooms are too large to be filled twice a year with water-colours with any really satisfactory result; secondly, because we think that an exhibition of oil paintings on a smaller scale than the Academy, but larger than the Dudley Gallery afforded space for, is to be desired. Perhaps the new rooms in Piccadilly are rather too large, for certainly the standard which admits some of the works here cannot be called very exacting. Still, there is a good deal to be seen, and the rooms are very pleasant ones for spending an hour in flitting from picture to picture among the best works, and skipping the less attractive ones.

We can only briefly touch on some of the salient points of the collection. There is a fine work by Mr. Alma Tadema, "Well-known Footsteps" (446), a Roman lady, very much in love, listening to the tread of a dignified-looking man, who comes up the outer steps facing the entry bearing a bouquet for her acceptance. Unfortunately, as in so many of the works of this splendidly-gifted painter, the figures do not much interest us from anything in their expression; in the management of the effect of the varied lights, reflected and transmitted (for a semi-transparent curtain forms an item in the properties), and the charming view of the long woodland vista beyond the entry, the picture is one of the finest the artist has painted. One of the most perfectly satisfactory works in the Gallery is an architectural picture, Mr. Fulleylove's "Antinoüs" (334), a scene at Versailles. Mr. Arthur Severn has made one of his brilliant attempts at the impossible in "Waves breaking by Moonlight" (7), very successful and very fine in some ways, and affording an interesting study of tone in light and shadow. What is the tone of the shadow in moonlight? What is it in this painting? It is difficult to say. In the painting the idea evidently has been that the bright but cold gleam of the moonlight on the waves imparts, by complement, a good deal of warmth to the shadows, even in such a scene; we believe this is correct, but only a careful observer of nature will discover it. Mr. P. R. Morris has made a brilliant and amusing study of "a blue girl" (101), of very tender years, whose helpless baby face and round eyes receive further comment from the comparison with the equally babyish face of a rabbit peeping out of its burrow close by. This might do as an illustration for Mr. Romanes, of the comparative brain power of babies and some of the lower animals. In "Promising Youngsters" (130) Mr. Tom Lloyd has given one of the most brilliant and real bits of light we remember to have seen in modern painting.

Mr. Van Haanen's fine "Study of a Head" (272) is a thing to be noted; likewise Mr. Linton's "Waiting" (304), one of his single figure studies, less expressive than some, though fine in colour, also Mr. Waterhouse's "Fishing" (316), carried on from the wall of a canal by a thin characteristic-looking damsel whose attitude, leaning back a little to keep her balance as she expects a bite, is admirably given. Mr. Seymour Lucas's "A Suspicious Guest at the Mermaid" (389: he really seems to mean a "suspected" guest) is one of the best of his Jacobean scenes. One of the cleverest paintings in the room is by an American artist little known here, Mr. F. D. Millet, "The Window Seat" (508); it is a study nearly all in whites or pale-greys, of a girl, seated with her back to a long window, sewing; the face is beautifully drawn and painted, the effect of light and air through the window very well given; the work is unusual and original. Mr. Walter Langley's "In Memoriam," an aged invalid man reading some old letter which has dropped from his hands (701), is a really pathetic work, though not of the sort that tells in exhibitions.

Among landscapes, we welcome Mr. Wimperis as an oil-painter, in a fine work called a "Calm Day at the Land's End" (165); Mr. Mark Fisher's "A Sussex Pastoral" (184) shows in perfection his fine qualities of touch and minute colouring, also a certain want of outer air and daylight, which we are too often conscious of in his works; Mr. Keeley Halswelle sends a very fine upper Thames landscape, "Opening Day" (678), illustrating Shakspeare's noble sonnet,—

"Full many a glorious morning have I seen."

Among other works may be mentioned Mr. Otto Weber's "A Chat on the Road Home" (70), in which landscape and cart-horses and figures are equally commendable; M. Fantin's "Poppies" (12), and also his portrait of himself, in another room; Mr. Henry Stock's "The Aspiration of a Soul while Listening to Music" (78), a highly praiseworthy attempt at idealism, partially successful, certainly worth serious attention as a work with serious aim (too few of such at present); Mr. W. C. Symonds's study of pitch cauldrons and pitch boilers,—"there is a substance known to many in our land by the name of pitch,"—and why should it not be painted? Mr. Symonds has made something of it. Mr. Knight's "Low Tide" (349) is good; Mr. Matthew Hale's "Gossip" (374) is quite out of the artist's usual line, and a not

unsuccessful attempt to play a little on Mr. Tadema's fiddle,—not with the touch of the master-hand, of course. The catalogue is illustrated with a large number of exceptionally good sketches of the pictures.

TWO EXHIBITIONS OF RIVER PAINTING.

Messrs. Gonfril & Co. have had open for some days a very nice collection of oil studies (chiefly) of English, French, and Dutch river scenery, by Mr. F. Myers Boggs, who is one of the French-American artists who seem to be becoming almost a little school in themselves; American artists working in Paris and adopting French mode and feeling in painting. It is needless after this to add that the landscapes and buildings and water are painted in that broad and occasionally "smeary" style which has become a tradition of so much French landscape; but there is some fine free work among the paintings, or sketches rather; "The Canal, Dordrecht," and "The Old City Gate" of the same town, are very good specimens of "the picturesque," and "High-tide, Poppendrecht," is a really high tide, the painter has given the peculiar *brimming* look of the water on the top of a full flood.

Mr. Keeley Halswelle's collection of Thames studies at Messrs. Agnew's is a much higher type of work, and contains so much variety of tone, and effect, and subject, as to show that with an effort Mr. Halswelle could certainly break through his mannerism of one repeated set of tones, which has hitherto been the drawback in his larger exhibited landscapes. The studies represent some years' work in a house-boat on the Thames, about some of the most beautiful portions of the river. They are well worth going to see. A catalogue on a sumptuous scale gives numbers of poetical quotations "suitable for the occasion," as well as other matter in relation to the scenes painted. We observe that Mr. Halswelle, like Mr. Leslie in his book on the Thames, is eloquent on the joys of punting and its great superiority to rowing. Probably rowing men will reply that punting is a form of river locomotion that is very well—"for artists."

THE TERMINATIONS OF THE FAÇADE AT FLORENCE.

The question as to which of the two schemes for finishing the façade of the Duomo should be preferred, in regard to which we printed a communication in our last, is, according to another correspondent, exciting almost as high party spirit as in the times of the Guelphs and Ghibellines. The question, put briefly, is whether the new front should be finished as a Gothic building, with high gables and pinnacle erections at the angles, or more as a basilica, with a low centre gable and horizontal cornice to the aisles.

Our opinion, after looking carefully at the illustrations of the two schemes, is, that if it be accepted that nothing more is ever to be done at any time to the Campanile (which, as we have more than once pointed out, is unfinished in reality), then the basilica termination is the best, as harmonising best with the outlines of both tower and dome as they at present stand. But in reality the west end of the Duomo is Gothic, not Renaissance; the tower is a Gothic tower, and the most complete scheme would be the finishing of the tower with the lantern and spirelet which it was meant to have, and the west end in Gothic form with high gables. The dome would be left to appear as what it really was, an addition when the spirit of Renaissance had begun to alter and modify architectural forms. The Gothic of Santa Maria is not *very* Gothic, it may be said, and the dome is not very Classic; but there is the distinction; and if west end and campanile were ever completed as one great whole, it is Gothic form they must take, leaving the dome out of the controversy.

Lincoln Cathedral.—In the recent gales, the whole of the open parapet on the west side of the central tower was blown down, and the remaining portions are left in an insecure condition. Fortunately, the stonework was blown inwards, and fell on the roof of the tower, or greater injury to the building might have ensued.

THE LONDON FEVER HOSPITAL.

This hospital has been carrying on its useful work now for upwards of eighty years. It has done excellent service in enabling the medical profession to study the various kinds of fevers, and has in this respect alone a most important claim upon the country. Until 1868 it was the only hospital for the reception and treatment of persons suffering from infectious fevers other than small-pox, and in its wards, where there have been sometimes as many as 3,600 patients in one year (1866), Murchison gained most of his experience of those diseases,—experience which he has since given to the world in the shape of a volume which may be regarded as the standard work on the subject.

The present building was erected from the designs of the late Charles Fowler in 1848, and was illustrated in the *Builder* of that year.* It is an imposing building, but in arrangement, as may be expected, is far from being up to the standard of hospital construction at the present day. Indeed, the progress that has been made in the knowledge of infectious fevers during the last twenty years has tended in no small degree to prove the unfitness of the hospital as originally designed for the separate treatment of the different kinds of fever now known, and the committee have from time to time had to make such alterations in the arrangement of the building as the limited funds at their command have permitted in order to afford the patients the best chances of recovery. The difficulties of successfully carrying on such a hospital will best be understood when it is remembered that patients have to be received into the hospital, whether suffering from typhus fever, scarlet fever, typhoid fever, diphtheria, or measles.

An effort is now being made by the committee to reconstruct the hospital upon improved principles, and so that the accommodation may be adapted in the best possible way to the requirements of the institution.

The first instalment of the reconstruction is a block of three isolation rooms, part of a large block to contain about a dozen such rooms, which has just been opened, and which we illustrate this week.

A noticeable feature in the exterior of the building is that it stands upon arches, partly above and partly below the level of the ground, so that there is a sort of open cloister beneath it, about 6 ft. high and 4 ft. below the ground, which is sloped down to the lower level. This space is intended to promote the circulation of air beneath and around the building in order that the ventilators at the floor-level of the wards may derive their supply of air further away from the ground surface than would otherwise be the case, and that the air so supplied may be less stagnant than if the ventilators in the walls were only a foot or so above the level of the ground outside. The cloister, too, will serve as a cool retreat for convalescents in hot weather.

Passing into the new wards, we find they are lined on all sides with glazed bricks of pleasing tints. All the external and internal angles, both vertical and horizontal, are rounded with purpose-made bricks, so as to afford no corners for the accumulation of dust and dirt. This, which has been recommended before by sanitary authorities, is the right method to employ; for there is absolutely nowhere that cannot be reached in the most effectual way by duster and broom, the floor and ceiling being rounded to the walls, and the corners of the rooms and the corners formed by the chimney-breasts being all carefully rounded in glazed bricks. In the same way the corners of the window-sashes and the panels of the door are smoothly rounded, and being without mouldings, afford no corners for the lodgment of dust. The window-sashes are each glazed with two thicknesses of glass, in order the more effectually to preserve a uniform temperature in the wards, and the lower sash in each window has an extra deep bottom rail in order that it may be raised so as to admit air at the meeting-bars without being open at the cill. One window in each room is fitted with casements, to give access to a broad balcony, where the patients, while still in bed, may enjoy the benefits of the outer air whenever the weather permits. This is an arrangement commonly adopted in all the best modern hospitals abroad, and is regarded as most beneficial to the patients.

The floors are of concrete, and iron joists, finished in the wards with oak block flooring, and in the corridors with a silicated cement face.

The wards will be warmed by means of Boyd's powerful stoves, with hot-air chambers, and in addition to the windows, which have fanlights above the sashes, the wards will be ventilated by large openings at the floor level, one behind each bed, fitted with Ellison's "Radiator" ventilators.

Each ward opens directly into the external air, so that there will be no atmospheric communication from one room to another, and consequently patients suffering from different diseases may occupy the several rooms with reasonable safety. The rooms provide 2,000 cubic feet of air space to each patient, and will be furnished with simple but pleasing furniture, made specially for the purpose, and resembling that usually provided in the private bedrooms of a house. All the heavier articles of furniture will have large wheel-castors to facilitate their removal for cleansing purposes, and the wardrobes will have smooth tops within easy reach, so as to be readily dusted. In fact, every detail seems to have been studied most carefully. The building has been designed by Mr. Keith D. Young, of Southampton-street, Bloomsbury-square, the architect to the hospital, and carried out by Messrs. Hall, Beddall, & Co. We commend the spirit of the committee in desiring to make the hospital perfect in its arrangements, and to raise its character by constructing the new block in accordance with the most approved modern theories of hospital construction. The building, of which we give plans and sections, is not one that will attract the admiration of the youthful draughtsman of the day, who thinks architecture consists in making pretty pictures. But it is because this "pretty picture" theory of architecture is so over-emphasised at present, that we hear so many disagreeable things said about the practical shortcomings of architects (not all of them false). One gentleman was indignant with us the other day for declining to publish a view of a hospital without the plan. To do so would be to put the cart before the horse. The architect of the new Fever Wards has evidently given his mind to the practical side of the subject, and set a good example in so doing. We observe that the arrangements of the building have received the commendation also of our respected medical contemporary, the *Lancet*.

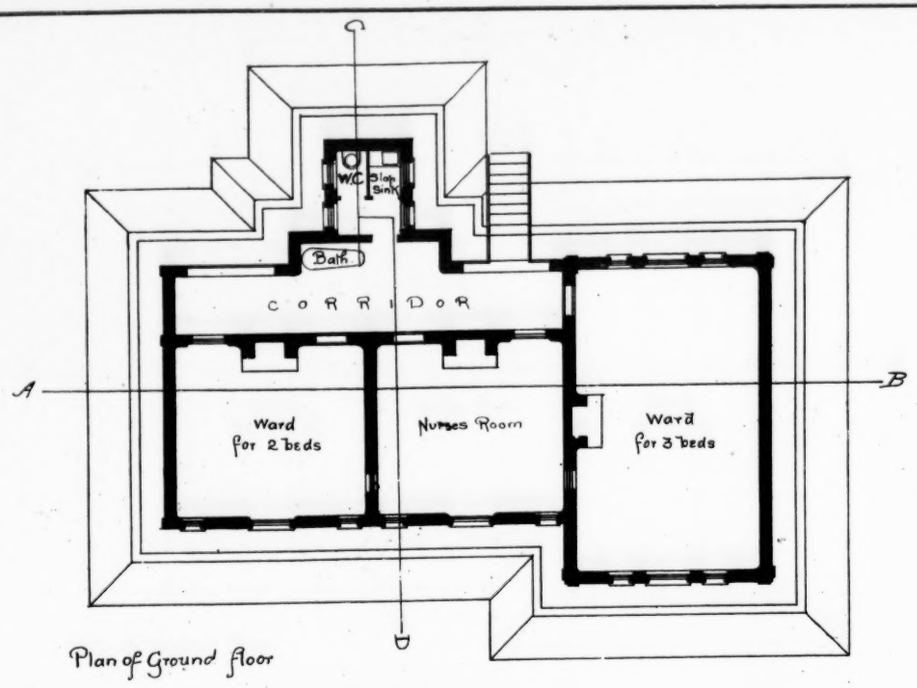
* See vol. vi., pp. 390, 391.

MODERN STREET ARCHITECTURE, BARCELONA.

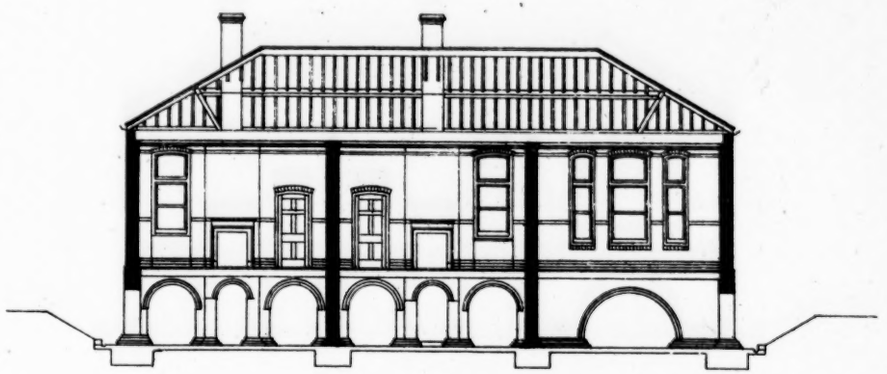
THE "CASINO MERCANTIL."

The Casino Mercantil, or commercial club, of Barcelona (of which we give a perspective view), is situate at one of the most central points of the old city. It covers an area of 900 square mètres, with a front of 11 mètres in the Plaza de la Veronica, and one of 38 mètres towards the Calle d' Avinyo. The style adopted is that of modern Renaissance. The material used for the façades is marble. The interior is most elegantly finished, and fitted up completely for the purposes of a commercial club and exchange combined. The architect of the building is Señor Don Tiberio Sabater. The statuary of the principal façade is the work of Señors Roig and Novas. The edifice was completed in the short space of nineteen months.

The Mersey Tunnel.—There now remain less than 200 yards of rock to be passed through between the two ends of the tunnel. The returns for the week ending Saturday, December 8, were as follow:—By Colonel Beaumont's boring machine, on the Birkenhead side, 30 yards; by hand, on the Liverpool side, 7 yards. Spaces between the two tunnels at end of previous week, 232 yards. Operations are in constant progress day and night at eight faces of the rock: two at the extreme ends of the heading, two at the extreme landward ends of the tunnels under Lord-street, Liverpool, and Hamilton-street, Birkenhead; two at the river ends of the tunnels which are about to break through into the level heading in the central part of the river, and two faces which are being worked back from the central heading to meet the tunnels. By arrangement with the Corporations of Liverpool and Birkenhead, temporary ventilating shafts are being sunk in Lord-street, Liverpool, and Hamilton-street, Birkenhead, for the health and convenience of the workmen.

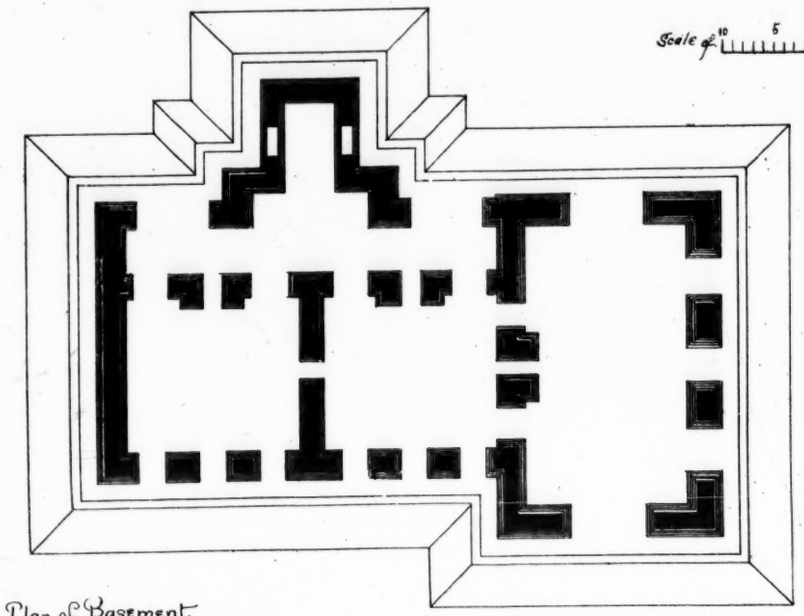


Plan of Ground floor

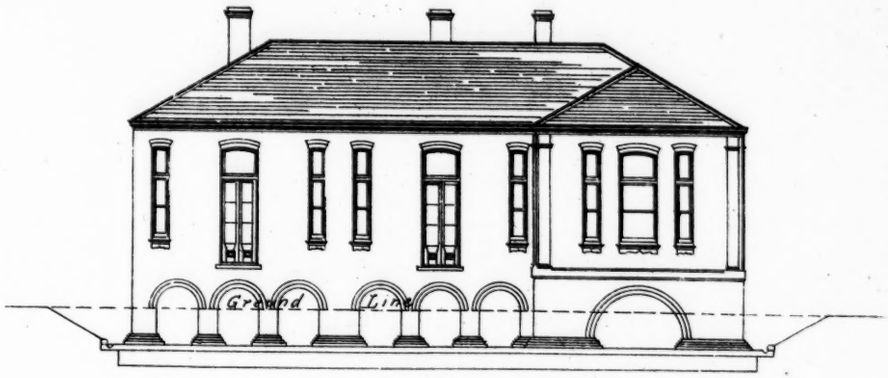


Section on line A. B.

Scale of 10 5 0 10 20 30 40 feet



Plan of Basement.



West Elevation

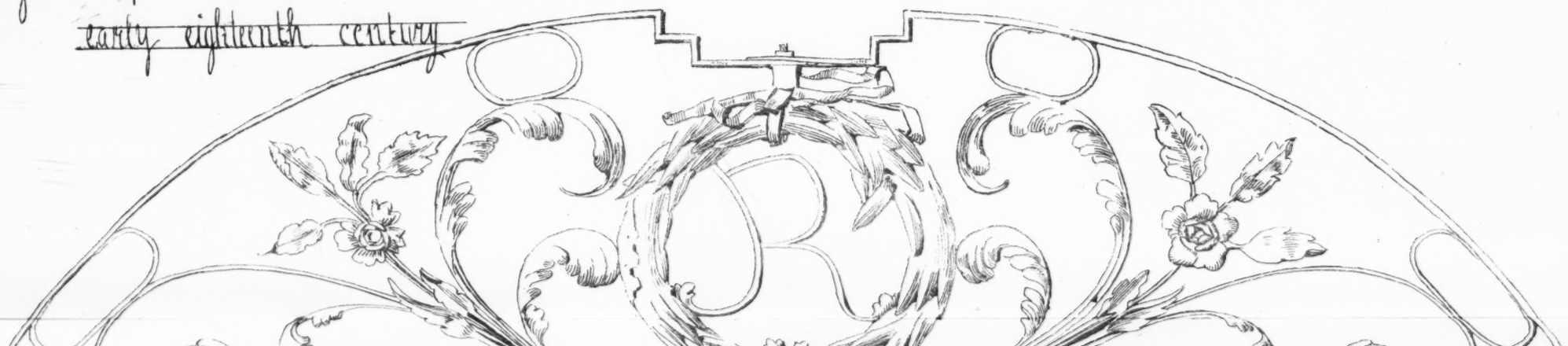
Wyman & Sons. Photo-Litho.

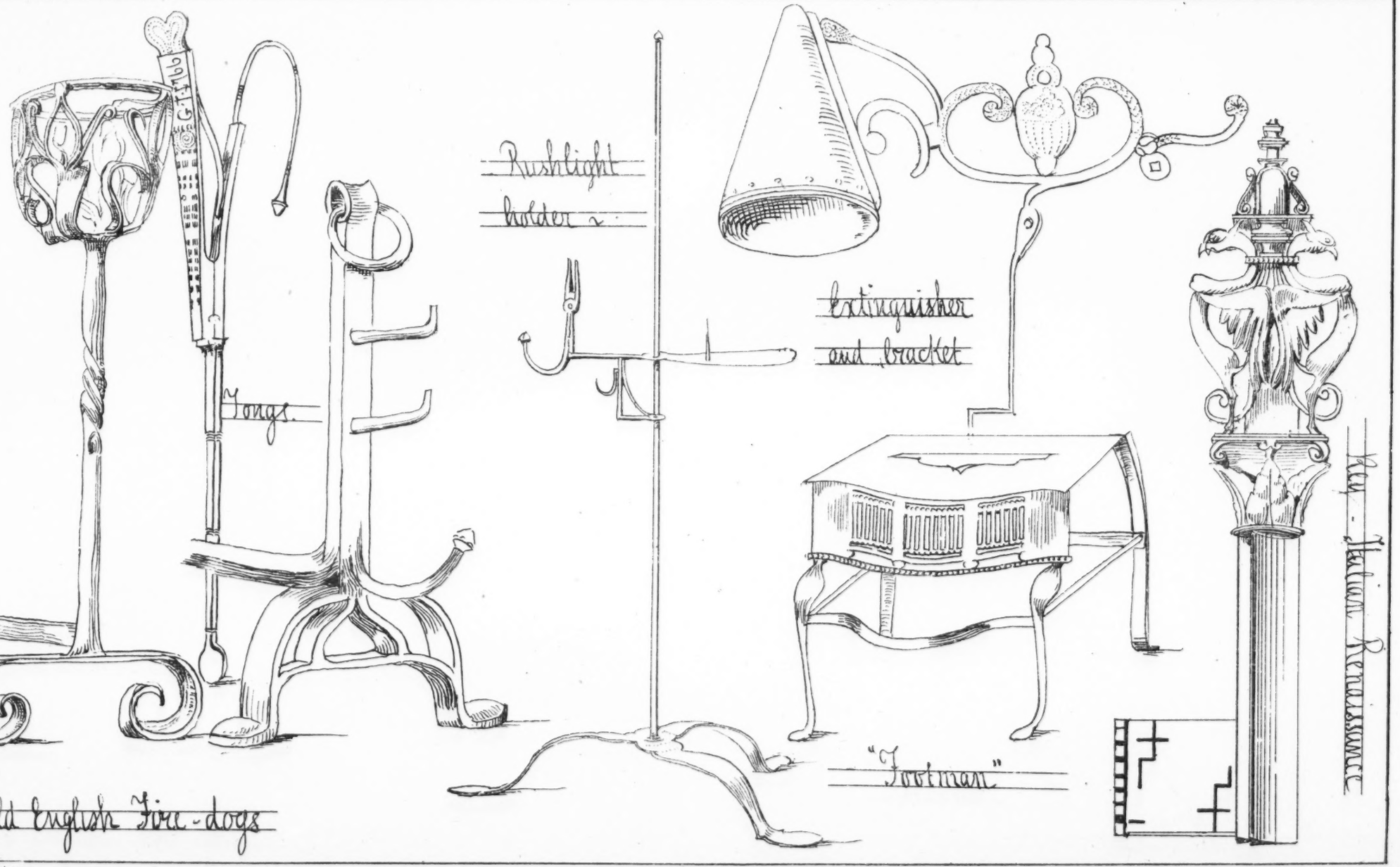
G^t Queen S^t London. W.C

LONDON FEVER HOSPITAL: NEW ISOLATION BLOCK.——Mr. Keith D. Young, Architect.

Gate-Top : French
seventeenth century

Gate-Top : Flemish
early eighteenth century



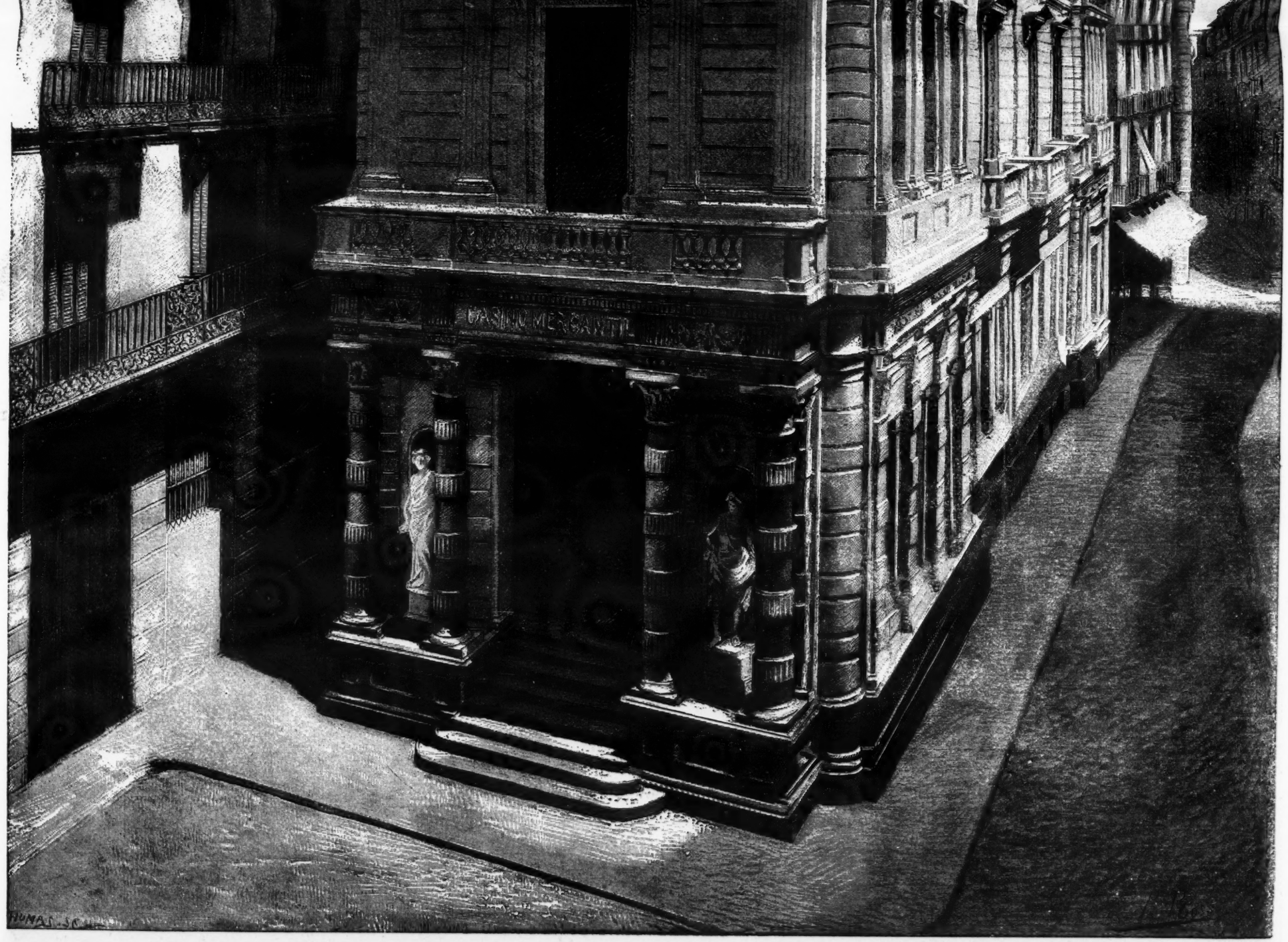


Old English Fire-dogs

Wyman & Sons, Printers.

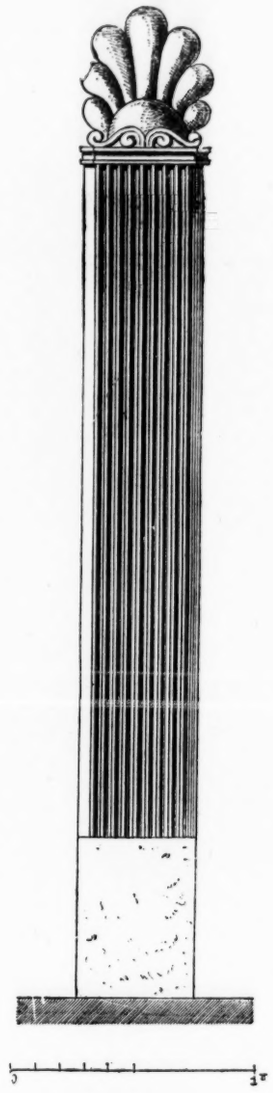
3 Queen St London, W C

EXAMPLES OF OLD WROUGHT IRONWORK.

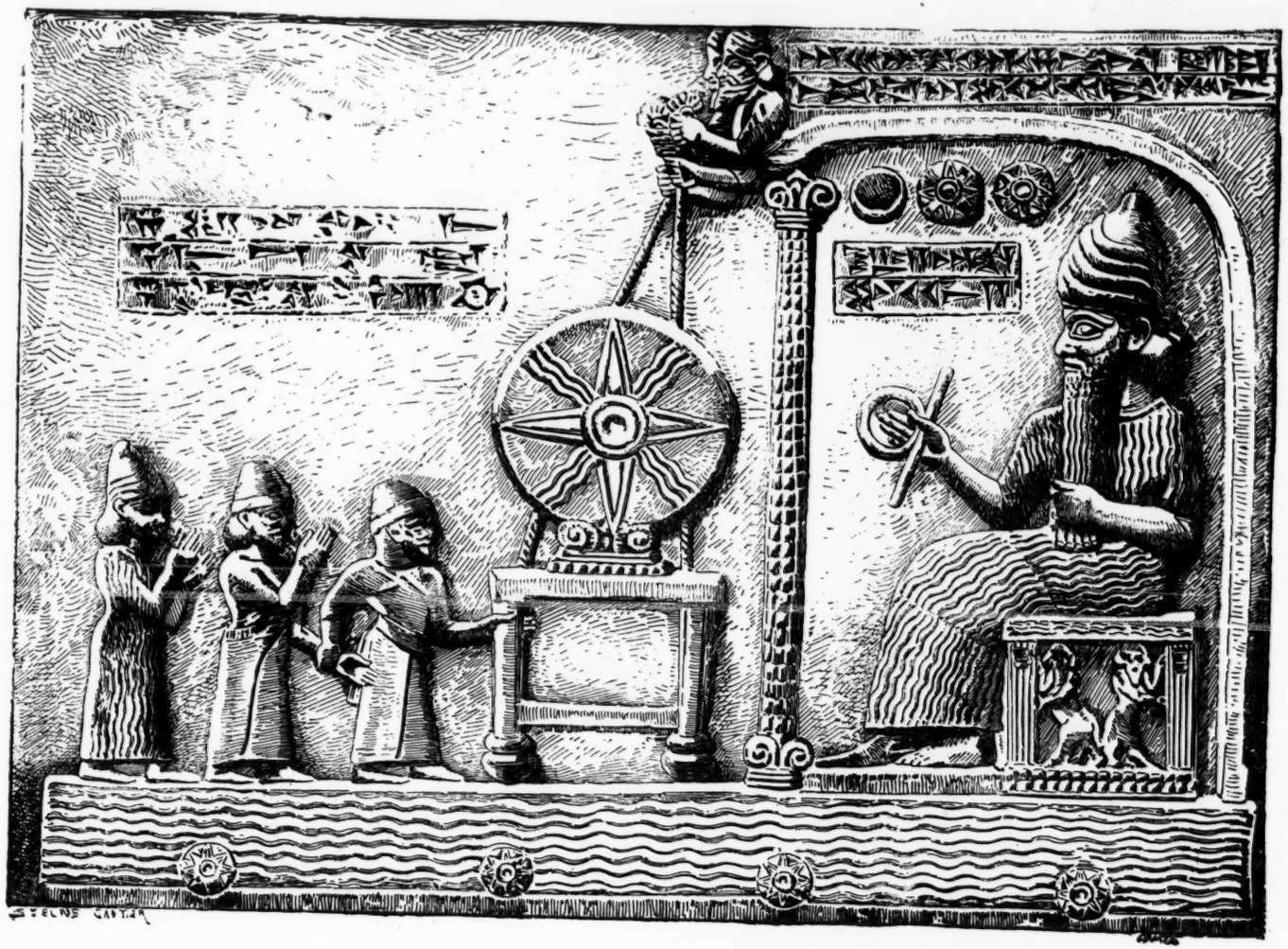


THE "CASINO MERCANTIL," BARCELONA.——Señor Don Tiberio Sabater, Architect.

No. 3.—Termination of Sword-Scabbard. (From a Bas-relief).

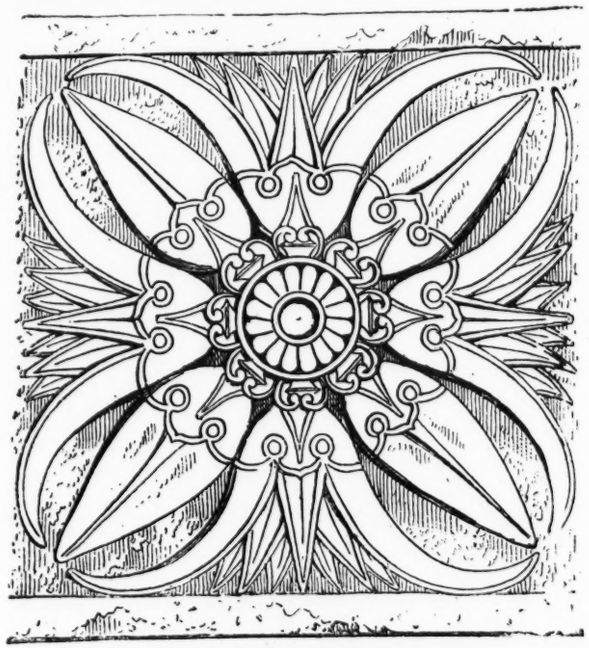


No. 2—Stele found at Khorsabad.

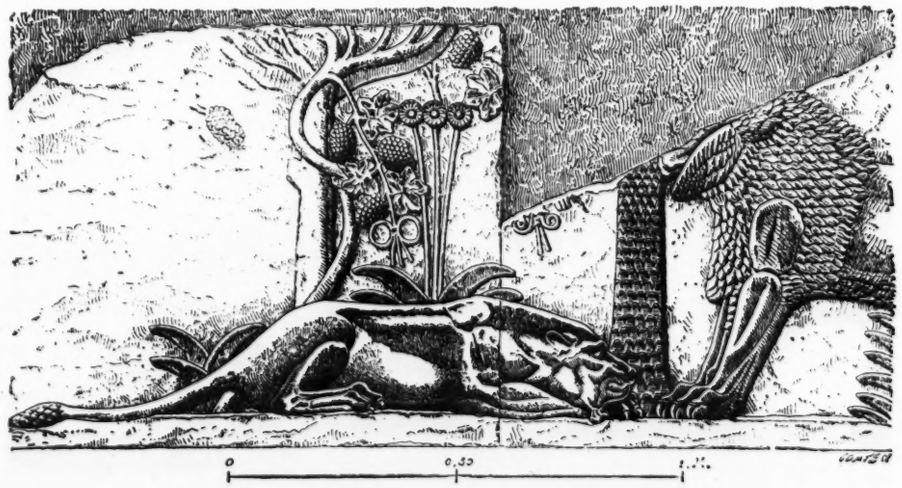


No. 1.—King doing Homage to Sun. Tablet from Abou-Abba; actual size. (Now in the British Museum). [See p. 811, *ante*.]

CHALDÆAN AND ASSYRIAN ART.



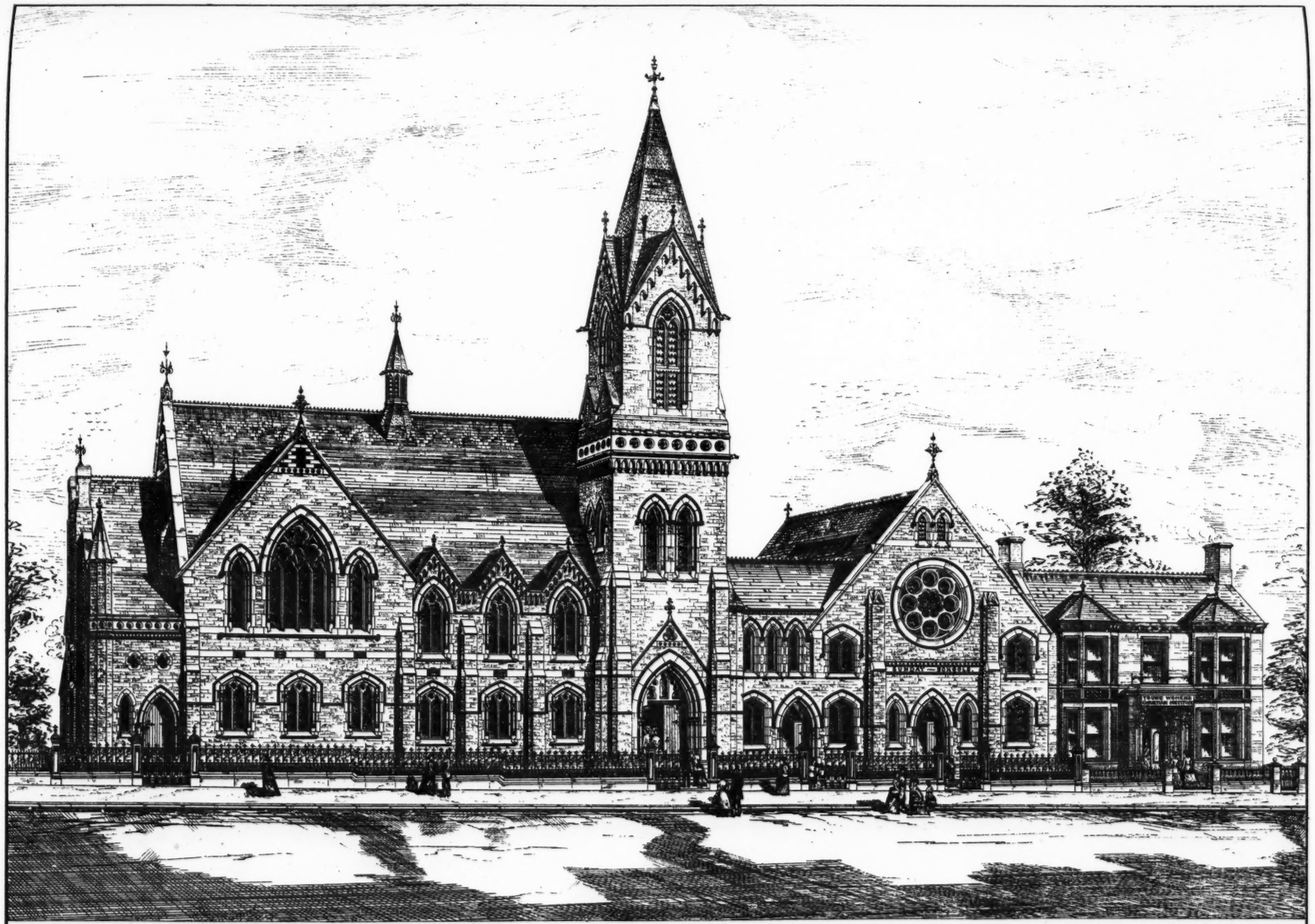
No. 4.—Rosette. (British Museum).



No. 6.—Lion and Lioness in a Park. (From a Bas-relief, British Museum).

CHALDÆAN AND ASSYRIAN ART.

No. 5.—Statue from Tello (in the Louvre). [See p. 811, *ante*.]



BAPTIST CHAPEL, SUNDAY SCHOOLS, AND YOUNG WOMEN'S CHRISTIAN INSTITUTE, HOLLAND Rd, WEST BRIGHTON.

JOHN WILLS, ARCHITECT. DERBY. 1883.

Whiteman & Bass, *Photo-Litho* 236, High Holborn

Wyman & Sons, Printers, G^t Queen S^t.

WROUGHT IRONWORK.

WE alluded last week to the interesting collection of wrought ironwork which is at present to be seen at the Galleries at No. 175 New Bond-street, and which has been brought together and arranged by Mr. A. Newman, who is himself conducting an *atelier* for the execution of wrought ironwork in accordance with the true principles of this branch of art workmanship.

To speak first of the examples of old work; one of the finest specimens is a piece of work in the school of, if not by, Huntingdon Shaw; the property of Mr. I'Anson. Whether Shaw's work or not, it exhibits the qualities of bold modelling of conventional but freely flowing foliage, which characterise so remarkably the famous work at Hampton Court, part of which is now at South Kensington. Among the others of the larger specimens are two gate-tops, lent by Mr. Wyatt. One of these is a boldly-treated example of Louis XIV. period, in which there is a curious mixture of the bad taste in design characteristic of the period, combined with a thorough knowledge of the most effective way of treating iron in such details as artificial foliage. The other example referred to is a similar piece of work, Flemish, but rather in the spirit of Louis XVI. style, when a more naturalistic use of foliage was adopted. This greater naturalism is not, it must be admitted, a quality to be desired in iron-work, in which conventionalism seems more necessary, artistically, than in most materials; but the desire to achieve it has resulted in the execution of some exquisitely-finished workmanship, the difficulty and delicacy of which can hardly, perhaps, be rightly appreciated by any who are not practically conversant with working in iron. We give sketches of these two gate-tops (see illustration) giving an idea of their general character and style. In both one must regret the flagrant error in taste in making the ramifications of the ornament start from realistic boughs or branches modelled as if torn from the tree, a glaring mistake from an æsthetic point of view. But, in spite of this, the freedom and boldness of the curves, the light execution of the leaves (which only an inspection of the original can entirely convey), and the ability with which, in the one case, some of the characteristic forms of Louis Quatorze ornaments are modified and attenuated to suit them to the character of the material; and, in the other case, the peculiarly iron-work way in which the foliage design is held free in the centre of the space by the rings and loops of metal welded to the main bars,—these qualities commend themselves as proofs that the workers of these pieces, however clogged by adherence to some bad artistic fashions of the day, had a great deal of the true feeling for wrought-iron style and execution.

In remarkable contrast to these are the simple and practical specimens of old English utensils of various kinds, of which a most interesting collection has been lent by Lady Dorothy Nevill. The interest of these is of quite a different kind from that of the Renaissance work just mentioned. There is in these no intention to be exceptionally artistic, ornamental, or striking; they are practical articles made with direct reference to their use; and yet how really artistic they are, simply because the material is used in the way best suited to gain the end required, in harmony with the qualities and capabilities of metal. We have seen few things lately more interesting and significant, in a way, than this portion of the collection; because in these there is really an art of the people,—a workman's art,—the pith of which consists in doing the work in the best way, and just putting so much of fancy and invention into it as, without in any way interfering with the practical usefulness of the article, may show to us that the workman really enjoyed and found interest in his work for its own sake, and not in a merely conventional or trade spirit. Among these articles, of which we give sketches, are two somewhat battered specimens of Old English "fire-dogs," one of them showing the basket for a spare lump of fuel at the top, its open work constituting about the only bit of real ornament in the two; but both are worked in a thoroughly honest and characteristic manner in every particular. The pair of tongs adjoining them is of a higher order, and is really a most artistic bit of design; as a small matter, notice how the workman has graduated his little ornament of rings round the legs of the tongs, first four, then three, then two; and the distances between them graduated also. The rushlight-holder is an interesting relic of social history; it is simplicity itself in design, but it has great practical merit and no nonsense about it; the tripod is modelled so as to give a firm stand; the spikes on the projecting arm or blade, some of which have gone, seem to have been for sticking a spare light on till wanted; or possibly a candle was stuck here to be lighted as occasion required, when a more powerful light than the rushlight was required. The extinguisher, with its fancifully worked bracket, speaks for itself; and so does the "footman" or stand shown below it, and which is another example of tasteful effect got merely by employing the metal in the manner which its character, to a workman not fettered by mere precedent, would naturally suggest.

In strong contrast again to this type of work is the Renaissance work in what must be called "carved steel," of one example of which,—an Italian key,—a sketch is given. Some exquisitely fine work has been produced in this way, and Mr. Newman's own collection affords some exceptionally fine examples of it. In Renaissance work of this type the utilitarian spirit is quite secondary, — too secondary, perhaps, for even the most truly artistic conditions; the object is to produce a piece of fine modelling, independently of the suitability and convenience of the implement for its purpose. This, one may say, is art for the rich, who can afford to pay for elegant knick-knacks; the collection of old English implements just referred to is the art of the practical workman, and is, perhaps, the more true in spirit of the two. Still, we cannot refuse our admiration to some of this exquisitely-wrought chased metal work, of which some very minutely-finished specimens are to be seen. Among the other attractions of the collection are some very fine keys, one with a monogram most delicately wrought in open-work; another, the "Stuart" key, lent by Mr. Truefitt, which must have taken two years to make, and represents a delicacy of execution which is almost unique. There is a fine collection of iron jewelry lent by Dr. Braxton Hicks, old Berlin work; and Mr. Shoppee contributes some fine keys, a pendant from an old city church, designed by Wren. There are some exceptionally fine and interesting specimens of old locksmith's work, some of the best of which are Mr. Newman's property.

Mr. Newman is endeavouring to assist in the idea of forming a really versatile school of English smith's work, getting out of the line of mere fashion of reproducing this or that style of old work, and encouraging the development of individual taste on the part of his workmen. He has, he tells us, sought often among the practical hands working at bicycle-making or carriage body-work, for men able to use their materials and tools well, and has succeeded in making out of rude craftsmen some of his best workers in artistic design. Capital is necessarily sunk in this kind of effort, but it is hoped that the growing taste for wrought-iron work, fostered by travel and observation, will have an appreciable effect before long, and that architects and their clients will demand something of higher artistic class than we get out of the thick and bulky "pattern-books" of some great firms who think they can manufacture "art" in the shape of cast-iron ornament.

Few who could appreciate the work that is collected in the exhibition referred to would be content with the pattern-book afterwards; and all who are interested in artistic metal-work should go and see it, and especially men who are engaged in metal-work of this class. Mr. Newman would be very glad if any of the workmen of art-metal firms would organise a Saturday afternoon to visit the collection, when he would have great pleasure in pointing out and explaining some of the more remarkable and interesting examples of design and workmanship. We may add that some of the modern work from his own forges, which is also included in the exhibition, is of an admirable character.

Bequest to Preston.—Mr. Richard Newsham, J.P., of Preston, has bequeathed the whole of his pictures, porcelain, bronzes, and statuary to the Corporation of Preston, his native town. This collection of art-treasures was ten years ago valued at from 60,000*l.* to 70,000*l.*, and since then has received some costly additions. Mr. Newsham died on Friday last.

BAPTIST CHAPEL AND SCHOOLS, WEST BRIGHTON.

THE buildings occupy a site on the east side of Holland-road and have a total frontage of 155 ft., but the depth of the land is only about 75 ft., thus presenting, on account of its shape, very considerable difficulties, both as regards the plan arrangement and external treatment.

The chapel is 72 ft. 6 in. long by 44 ft. wide inside, and will seat about 800 adults, or a mixed congregation of 950 persons. The general building material is brick, but the front will be built with Purbeck rock faced stone, with Freestone for doorways, windows, and other dressed parts. The windows will all have mullions except those of the orchestra and the gable opposite, which will be circular, with transitional tracery. The pew fittings will be pitch pine, and the gallery front will be open with ornamental cast ironwork. The pulpit will be of elaborate design, and behind it will be placed the orchestra, with richly-panelled and cusped front.

The orchestra is separated from the chapel by a lofty moulded arch, which rests on polished marble columns, and these are supported by Bath stone corbels, carved with natural foliage.

The roof is partially open, the visible work being filled in with panels with trefoil heads. The prlncipals are supported with carved stone corbels.

The tower is 110 ft. high, and the main entrance to the chapel is under it. This leads to a vestibule having doors leading to aisles, and stairs leading to galleries. There are entrances at the other end also leading to ground-floor and galleries, so that egress and ingress are well provided for. There are three vestries from 10 ft. to 24 ft. long, placed in the best positions in reference to baptisms.

The schools have been thoroughly considered in all their arrangements, and will accommodate 900 children. There is a central hall, 52 ft. 6 in. by 36 ft. 6 in., having a narrow gallery, and lighted from the ends and roof. There are also class-rooms for infants and senior scholars.

There will be a large kitchen under the infants' room with copper for teas, stores for china, and heating apparatus for warming the whole of the buildings by hot water and by one boiler.

Ventilation is considered and a provision made for fresh air, and extraction of foul air, in chapel, schools, and every class-room, and vestries.

The architect is Mr. John Wills, of Derby, and the cost of the works is estimated at 7,200*l.*, which, added to the architect's fees and cost of land, brings the total to about 10,750*l.*

The building adjoining the schools is a "Young Women's Christian Institute." The front part consists of living and bed rooms for the curator, also a library, cloak-room, and three class-rooms. Behind these is placed the lecture-hall, 38 ft. by 25 ft. 6 in. inside, and 20 ft. high to ceiling.

Much attention has been bestowed on these buildings internally, with a view to their utility and attractiveness. They are also designed by Mr. Wills, but are treated in a different style from the chapel to avoid the appearance of uniformity, as this institute is an unsectarian enterprise. The cost will be 1,500*l.*, and including land 2,500*l.*

The chief promoter of the combined scheme is Mr. Geo. Thos. Congreve, of Peckham, who has taken up his residence at Brighton.

The Church Missionary Society's Buildings in Salisbury-square.—The premises of this Society, on the west side of Salisbury-square, Fleet-street, are at present undergoing an enlargement by an additional frontage of 26 ft., the extension occupying the site of McEwen's Hotel. The ground-floor portion of the frontage is in Portland stone, with rusticated spandrels between the windows, the three upper stories being faced with white Suffolk brick, with stone dressings. When completed the premises will have a frontage of between 80 ft. and 90 ft., occupying the whole of the west side of the square, with the exception of the premises of the *Farmer*. The additions will provide a new board-room, together with numerous new offices. Mr. Bracebridge is the architect, and Mr. W. Bangs, of Bow, the contractor.

ANGLO-SAXON ANTIQUITIES.

Having presented our readers with a *résumé* of the first three of the lectures delivered by Professor Hodgetts, in the Anglo-Saxon Room at the British Museum,* we subjoin a similar account of the three later lectures which completed the course.

The fourth lecture was on the subject of the "Brooch," of which three forms are preserved in the national collection. The most ancient *preon*, or *spáng*, to adopt old English nomenclature, appears to have been the complicated cruciform brooch, of which so many specimens are preserved in the national collection. This form, notwithstanding its cross-like shape, is Pagan and very ancient. We find it in Frankish graves of high antiquity on the Continent. The cross is of Pagan origin; for the Christians certainly did not invent it. *They* did not crucify the Saviour, nor could they have originated the various cruciform ornaments found all over Europe, and evidently of a pre-Christian origin.

The word "brooch" is French, and not at all comfortably at home in England, yet sometimes we see it written "broach," and sometimes "brooch," but as it is a foreign word still we never feel sure which is right. If we used the word *spáng*, or *gespáng*, we should feel that it was English at least; for we have the verb "to span," the span of an arch, both from the verb *spannan* or *gespannan*, to clasp, to join. The word "buckle" is still more objectionable, coming from the Latin *bucca*, a cheek, in allusion to the cheek-like roundness of the raised portion of a connecting-brooch. In French ringlets are called by the same name as buckles, the word *boucle* meaning a buckle, an ear-ring, or a ringlet,—the first from its resemblance to the form of the cheek, and the other two from their proximity to it.

The large brooch or *gespáng* was used by both sexes as a fastening for the mantle, just on the breast and off the shoulder. It may be called the king's gespáng, for its size, beauty, and resemblance on the MSS. to the form seen on royal mantles; but one very similar is described by the late Mr. Thomas Wright, the antiquary, as having been found on the breast of a lady in a grave on Kingston Down. He also notices the circumstance that this brooch was worn by men and women. These ornaments are richly worked. They are well supplied with garnets and other stones, in a peculiar and rather fanciful setting. The filigree-work, in concentric circles, is peculiar.

The smaller brooch or *preon* is less known to the world at large, and a good opening might be found for a London jeweller who would make some brooches in this fashion, and so offer an old friend in a new dress. The coronated portion, which would naturally be taken for the head, was really the base of the ornament and worn downwards, so that the whole had somewhat the appearance of an anchor. This form of brooch is found all through Kent. The cup, or, rather, saucer-like brooch, is a well-known Anglo-Saxon form. At the bottom there is generally a human face very badly executed, for the study of any portion of the figure seems to have been greatly neglected by the early English. Every thing they drew seemed to resolve itself into the scroll; the foliage of trees, the limbs of animals, and even of men and women all partook of the scroll feature, and this tendency served them in good stead in their delineation of flowing mantles. Among the Angles proper the circular form of brooch was used for the mantle.

The long mantle was worn on state occasions at Ting and *Witena gemót*, and the shorter garment in hunting and in war. The short cloak was always fastened on the right shoulder; the longer mantle was sometimes clasped at the throat. Mantles were frequently very richly ornamented with gold lace, or gilt leather bordering. Bishops, and even inferior ecclesiastics, are represented with ornamented mantles, and among the Angles proper with the circular form of brooch. The mantle was used by the Anglo-Saxons as a distinctive mark of rank, the white cloak being used by the noviciate soldier, while blue and red were worn as emblems of nobility and of military rank.

Among the articles mentioned in the syllabus in the same category as the brooch are many which pertained more directly to ladies' dress, and this gave occasion for a brief notice of the female costume of the Anglo-Saxon times, and to notice the high tone of morality prevalent among the Teutons, including the Scandinavians and ourselves, and the conduct of the Goths gave occasion to some interesting quotations from Tacitus, Strabo, and from a priest of the fifth century named Salvian, who calls on the Romans to blush at the contrast between their manners and those of the Goths. This high tone of morality was owing to the influence of women among the Northern nations, and the high respect paid to her as priestess, wife, and mother, which made the early Scandinavian such "a thorough gentleman." He revered woman, and listened to her advice and prophetic sayings. Whether he was right or wrong the result has shown. Rome, who held woman as a thrall or plaything, was humbled to the dust; we took her proud possession on this island, and now a lady wears the crown.

Referring to Strabo's remark that the Cimbri were always attended by their wives, even in their most distant expeditions, the structure of the lower part of the Viking ship was shown to have been fitted up with accommodation for the wives of the heroes, who, by the Viking code, were not suffered to sleep below, and thus the circumstance was accounted for that the warlike but moral Scandinavians held no intercourse with the wretched Britons, whom Rome had conquered, but could never civilise. Comparison was made between the statements of Tacitus, Strabo, and Salvian, regarding the Gothic nations and those made by Cæsar respecting the disgusting mode of life of the Britons.

The buckle was shown to have existed from a very early period, and to have been made in iron and bronze. Connected with the buckle came the consideration of the amount of leather work done in the island. A curious list of articles made by the shoemaker was given, showing him to have manufactured ankle-leathers, shoes, leather hose, bottles, bridle-thongs, trappings, flasks, boiling-vessels, leather neck-pieces, halters, wallets, pouches. The leathern thongs with which the lower extremities were adorned were proved to have been used to fix and support the linen covering in which the lower limbs were encased. As they crossed each other, they formed the check pattern now preserved in the stockings of the Highlanders who were indebted to the Saxons for their sword shield, glengary cap, and for this curious ornamental stocking. This mode of keeping a linen bandage in its place round the leg is now in use in Russia. Where the leathern thongs crossed each other in the case of an important leader, the point of intersection was always marked by a metal boss or button, either gold, bronze gilt, or brass.

In the fifth lecture, the subject immediately under notice was the ring, which was shown to have been an object of great importance to the whole world in almost every relation in life during at least 1,500 years. Chain-armour was brought from the cradle of our race, India, at the time when the tide of population began to surge westwards, and the Aryans to people the north-west of Europe. They brought with them, what they could not very conveniently have left behind, their language and their dress. The oldest records in India refer to chain-armour, and we find such chain-armour in India at the present day as was worn more than 3,000 years ago. In "Beowulf" armour is called the "war-net," "the net woven by the smith, hard hand-locked," *i.e.* riveted. The various patterns in armour called ring-armour, the armour of rings set edgeways, banded mail, chain mail, and mascled armour are nothing else but the different patterns of chain-mail; and this was strikingly evident on referring to a set of specimens of chain-armour which, by the kindness of Mr. Franks, were furnished for the purpose of comparison. The same appearance was seen in a fragment of ancient mail of the twelfth century that is represented in the Bayeux tapestry, and called by Meyrick "armour of rings sewn contiguously on cloth or elk-skin," The patterns called by him "armour of rings set edgewise," and "mascled" armour were seen to be the result of different styles of weaving the rings together into a net.

So entirely were the Scandinavian-English identified with their rings that they enter into their very name in a compound word formed on the principle of Gár-Dane or Spear-Dane already noticed in the lecture on the spear, and occurring in "Beowulf" as Hring-Dene. It seems that this armour was seldom interred with the warrior after death, but was left by him to his nearest male relative or friend. This was done by Beowulf, who left his byrnie to his Thane Wigláf, "because he had no son to leave it to." All through this poem the evidence that the byrnie is made of linked rings locked together like chain is most complete. So in the sagas and legends handed down in the North, we have evidence all round that the armour of the Scandinavians was the same as that worn in India, allowing for certain differences in the pattern of setting the rings and in their size.

Great stress is laid upon the frequent gift of rings by the rich chiefs who engaged retainers in their service by allowing them free quarters, board, plenty of mead to drink, and *rings*. This curious custom has never been fully investigated, and when all the evidence yielded by the Early English (or Anglo-Saxon) and Scandinavian documents, referring to this custom of giving rings has been carefully gone through, we come to the conviction that rings were current as money from a very early age indeed. Mr. Hodgetts is the first to draw attention to this circumstance, and he suggests that the Britons who obtained copper money from the Gauls got their ring money from the Scandinavians, who came to the island for certain metals which they had not in their home in the North. Arm-rings are generally called "*beáh*," from the verb "bagan," to bend, whence our bough of a tree and the verb "to bow." That all the rings spoken of as awarded by chiefs to their retainers were of solid gold is improbable; it is far more likely that they were of bronze or of bronze gilt, either of which would be magnified into arm-bands of gold. This expression, however, is less common than "arm-rings" or "*beáh*" alone, so that there is every reason to suppose either that the saga-man exaggerated the bronze into gold, or when not of gold purposely left them merely as rings without any specification of the metal. Some of the rings in the collection seem too large and clumsy for finger ornaments and too small for bracelets; these were in all probability money. The Anglo-Saxons never used money until they came to this island, but their name for a treasury was the "hring-hoard," or hoard of *rings*. There is no mention of money all through "Beowulf." Among the Scandinavians, Germans, and English, large dealings were transacted by exchanging land, or whatever was to be sold, for cattle originally called *feoh* (German *vieh*, pronounced "fee"), whence our name for the honorarium paid to professional men at the present day. In Latin, *pecunia* is also derived from *pecus*, cattle. Smaller matters of business and personal services were constantly rewarded by the gift of rings, certainly not arm-rings, but more like those in the collection.

Civil oaths were sworn on the ring as military vows were made on the sword, and it would appear that a civil oath on a sword was not binding any more than a military oath on a ring. On occasion of the great law meeting, when three districts sent each a judge attended by his twelve doomsmen to the court, so that there were three judges and thirty-six jurymen, an imposing ceremony was performed. A priest in white robes would issue from the *tempel-hús* near the doom sten, and holding up a large silver ring in his hand would present it to each doomsman sitting on a huge stone on the ting-stead (as on Salisbury Plain) and cause him to swear to judge rightly.

The judges, witnesses, plaintiff, and defendant were all sworn alike on the ring, and when the entrails of the victim were examined, the same wierd priest held up the same solemn ring in one hand while the other performed the rites of the augury. The Danes were made to swear on their rings not to vex this land for a certain time in consideration of receiving Dane-geld. But, as it was an oath military, sworn on a civil emblem, they had no hesitation in breaking it. So they took the money, broke their promise, and laughed at the stupid English, whose conversion to Christianity had caused them to forget the niceties of Scandinavian law.

The finger-ring seems a later invention than the arm-ring. Mention is made of it in the coronation of the queen of the second Ethelred, a ring being put on her finger, "and then she was crowned." It would appear from this that the act of placing the ring was a special honour allied to coronation, and that the English custom of placing a ring on the finger of the bride is simply an admission of her to the dignity of queen of the household; and indeed her position was something like it when we take into con-

* See p. 748, *ante*.

sideration how many privileges she enjoyed. In older times there used to be a grand interchange of presents, from the wife's family to the husband as a mit-gift or dowry, and from the husband to the wife as a morgen-gifn or morning gift, presented on the morning after the wedding. This interchange of presents is preserved in Germany and Scandinavia, where the parties exchange rings.

The helmet was a leathern cap strengthened by a ring at the base, and surmounted by two half-rings crossing each other at right angles where the spike of the modern German helmet is fixed. The sword was ornamented with rings, and the stem of the war-ship was adorned with rings passed over the portion to which the figure-head was subsequently fixed. That these enormous rings were of gold seems incredible, but that they were of bronze is very probable on account of the resistance of that metal to the action of the water which corrodes iron. That the poet should call them gold rings is in keeping with the strain of these skalds, who certainly did not under-state the wealth of the heroes whose praises they sang.

The mystic value of the ring is seen in the great living ring, or Midangárd's serpent, that holds the world in its place by keeping his tail in his mouth with all due firmness. In the centre of a circular disc is the mountain of Valhalla; round this as a circle lies the Midgárd, or Middungárd. Then comes Ocean, in whose streams lies the monster Jörmungand or great sea-serpent, the conserving power of the cosmos, a living ring. Beyond Ocean is the ring of frost mountains, where the giants dwell.

To place things in a circle is to "ring" them. To produce a clear metallic sound that vibrates all round is to ring; so when the great stones are set up for judgment, punishment, and debate the doom-ring is raised, and round the stones a cord is drawn, to make the ring complete. To cut this cord is to profane the *ting*. The whole setting has been in vain, and the preliminary rites must all be gone through over again. In the absence of the ring-stones hazel-twigs were set up in a circle (as we read in Egil's "Saga"), and the cord is drawn round them to make the ring complete. From the circumstance of the stem of their ships being strengthened with rings they were called ring-stems; the warriors were called ring-Danes, from their armour; the prince was the "distributor of rings," *quasi* paymaster; his treasury, "the ring-road"; his sword, the "ring-mæl"; his crown, the "cyning-helm"; and the distinctive mark on the arm of a Viking was the bronze or golden ring, just as at the present day the respective ranks in the Navy are marked by rings of gold lace on the arm.

The thane and jarl were distinguished by a gold band worn round the helmet, the prototype of the coronet of our House of Lords, which is only a hoop of gold set round with precious stones and subsequent devices. The cyning-helm was such a ring of gold, surmounted by two other half-hoops crossing each other at the top of the head, also of gold, not of bronze or iron, as those of the ordinary helmet were, and between these half-hoops on the lower circlet were either small triangular pieces of metal or *fleurs-de-lis* of gold, while the circlet of the noble was plain. This account of distinctions in rank led to some archæological research into the different degrees of nobility existing in Scandinavia and England, and the origin of the titles connected with them.

The sixth lecture was devoted to the consideration of the various articles usually found in Anglo-Saxon tumuli. Necklaces of beads were first noticed, and shown to have been worn by men, although more emphatically articles of female adornment. The constant occurrence of amber is due to a Pagan belief that this fossil gum was a talisman against the dark elves in the Pagan times, who were only translated into fiends by the advent of Christianity, and were kept at bay by the amber, in the same manner as before the Christian period. The coloured clay beads in the British Museum are almost identical with some found on Kingston Down, in the middle of the last century, and described by Thomas Wright, the antiquary. The powers possessed by beads as amulets against the evil enemies of our souls lived on after the introduction of Christianity, and the beads of monks and nuns were supposed to be endowed with supernatural might. Even at the present day beads of extraordinary virtue are sold at a certain holy shrine in Russia.

Besides these beads there are several other interesting articles for the toilette, some of which point to a refinement and cleanliness, not generally claimed for our forefathers. Combs are found everywhere, in the graves both of men and women, and such articles as ear-picks, tooth-picks, tweezers, and the like abound, proving that there was great attention paid to minor acts of cleanliness. The hair-pins of the ladies here preserved are similar to those in use in the north of Germany; the ear-rings are still met with in Sweden and Norway, and the foreign gold coins worn as ear-rings remind us of the modern custom prevalent throughout Europe.

The drinking-horn and vat (*fæt*) found in Anglo-Saxon graves are purely Scandinavian. There is a German horn well imitated in glass, and many remains of English stoups, or vats, for drinking, carefully preserved in this collection, and the lecturer called attention to the absurd reproach made against the Goths of drinking wine out of the skulls of their enemies. The passage from which this custom has been deduced means the horn of the Orochs and not the human skull, and to this kind of drinking-vessels our forefathers were attached, because they could not be set down while any liquor remained without spilling the whole. This idea was carried out in the glass "tumblers" of the later Saxon time which would not stand. Subsequently two gold feet attached to a ring were added to the horn, which, with the sharp end resting on the board, formed a tripod which could stand. The stoup was used for ale, and also for a kind of *olla-podrida*, which our forefathers greatly affected. The solid pieces of meat were taken from the stoup with a perforated spoon, which allowed the liquid to drain through, leaving the solid portions dry. The soup proper was drunk in the heroic style by setting the stoup to the lips and exhausting the contents.

The horn in mythology was next considered, and Thor's drinking adventure in Jotunheim explained at considerable length, and shown to indicate the descent of divinity to aid man and rescue him from the evil principles represented by the jotuns or eaters (giants), and from the danger of being overwhelmed by the flood of mere external knowledge preventing his appreciation of spiritual or heavenly truth.

The custom of draining the horn to friends, to heroes both living and dead, and to the gods survived the introduction of Christianity; for we learn that shortly after its reception by our ancestors, they were in the habit of drinking healths to the Saviour, the apostles, and to saints, so that there was actually no change in the custom itself, but only in the name of those in whose honour it was observed.

Notwithstanding all this, the Pagan English had no Bacchus, no Bacchante, no Silenus, no orgies, no saturnalia. Odin drank wine, because it is the most wise and solemn of food; flesh he took none; and although the drinking of mead was practised to excess, there were no disgusting rites connected with it. There was, however, a god of Purity, who would hardly find a representative in Olympus. It was strongly urged that our own mythology was more fitting for our consideration and for our peculiar genius than that of Greece and Rome, and that it certainly contained none of the objectionable ideas suggested to youth by the mythologies of Greece and Rome.

The various kinds of burial were then dwelt upon. Cremation and interment seem to have been coeval practices. Ship burial was also minutely entered into. But our limits will not permit of further report, especially as we understand that the lectures are to be repeated as such, and also that, in compliance with a very widely-expressed wish, Mr. Hodgetts is about to issue them in the form of a book.

Sir James Alexander occupied the chair at all but the closing lecture (when he was prevented from being present), and spoke in high terms of the interest and value of the information given in them.

Drainage of Kilburn.—With reference to a paragraph (p. 786, *ante*) reporting the result of "Metropolitan Board of Works *v.* The Willesden Local Board," we have received letters and a copy of Baron Pollock's judgment, showing that the report which reached us was inaccurate, and that judgment in the Kilburn case was for the defendants.

THE METROPOLITAN BOARD OF WORKS AND LONDON THEATRES.

IN March last the Lord Chamberlain forwarded to the Metropolitan Board of Works a letter he had received from Mr. Gustave Bernheim, of Rheims, an eminent maker of fire-extinguishing apparatus, and the patentee of several methods for rendering buildings, &c., incombustible, relative to a new invention for rendering the scenery, decorations, and woodwork of theatres proof against the action of fire.

The matter was considered by the Board of sufficient importance to be referred to a committee, by whom all questions relating to theatres and music-halls are dealt with, and the Chemical Assistant to the Board (Mr. Dibdin) was directed to obtain from Mr. Bernheim samples of materials treated with his fire-resisting composition, and to report to the committee.

The chief merits claimed by Mr. Bernheim for his invention are:—

1. That the protection afforded by the process is of a permanent character.

2. That the cost of the application is relatively inconsiderable; and

3. That the process does not injure the flexibility or colouring of the most delicate fabrics.

He further states that he attains the object he has in view in the following manner, viz.:—

(*a.*) By the use of chemical salts, which, although of themselves capable of resisting fire, give off, when heated to a given point, certain gases which choke the fire and keep the material to which the salts are applied slightly damp.

(*b.*) By the use of salts which, on the application of heat, form an incrustation around the protected material which is impervious to the action of flame, and prevents the contact of the oxygen of the atmosphere with the heated surface.

(*c.*) By the use of neutral products for the purpose of combining the various salts used for protecting materials and, at the same time, allowing each salt to act without injuriously affecting the colour and flexibility of the material protected.

It appears from the report of the Chemical Assistant to the Board, which was presented to the Board on the 19th of October last, that the action of Mr. Bernheim's process is two-fold, and that the material to which it is subjected is covered by an incombustible coating which effectually prevents the access of the oxygen of the atmosphere, by which means rapid destruction is arrested. It is, of course, impossible to prevent the ultimate destruction of the material, but instead of burning it undergoes what Mr. Dibdin describes as destructive distillation, and this process only lasts so long as it is exposed to external heat. So soon as the extraneous heat is removed the fire goes out, and it is therefore almost impossible for fire to be communicated from one portion of a material to another which is protected in the manner proposed by the inventor.

Scenery and dresses can be protected more readily than heavier materials on account of the larger quantity of the solution they are capable of absorbing, and the relatively smaller quantity of inflammable gases given off by their combustion.

The practical effect of the invention would be that in the event of a gas-jet coming in contact with any portion of scenery or other materials proposed by Mr. Bernheim's process no further damage would be occasioned beyond the destruction or disfigurement of the part immediately in contact with the flame.

It appears that the cost of rendering the Grand Theatre, at Rheims, fire-resisting so far as regards the scenery, decorations and woodwork, was about 840*l.* Mr. Bernheim states that the cost of applying his invention to the whole of the combustible parts of a theatre ranges from 400*l.* to 3,000*l.*, according to the size of the building, and offers to make a trial of his invention in London on an extensive scale in order to test its applicability.

The Metropolitan Board of Works forwarded a copy of their officer's report on Mr. Bernheim's process to the Lord Chamberlain, and informed his lordship at the same time that as the Board's powers, with regard to theatres, are limited to the remedying of structural defects they have no power to enforce the use of any process for rendering any portion of a theatre incombustible.

A NEW BUILDING IN EDINBURGH.

After describing the plans for a proposed new mission-hall, to be erected at the foot of the High-street, in the proximity of the house which was occupied by the Scottish Reformer, John Knox, we expressed an opinion that the proposed building was designed in a style wholly unsuited to the site, the buildings upon which bear the characteristics of the national style strongly impressed upon them. The building in question is now approaching completion, and has elicited, in the local press, an unusual amount of hostile criticism, and those concerned with it are taken to task for their want of discernment and good taste. Not only is this so, but, as is frequently the case in such circumstances, the whole architectural profession are stigmatised as perpetrators of similar enormities, and the words of Victor Hugo are quoted in confirmation of the bad taste of the profession. The gifted Frenchman remarks:—"To the operations of ages and of revolutions, which, at all events, devastate with impartiality and grandeur, have been added those of the cloud of school-trained architects, licensed, privileged, and patented, degrading with all the discernment and selection of bad taste."

Apart altogether from the position it occupies, the building is of itself a miserable production, exhibiting in a feeble-forcible manner the most commonplace details of the style of Palladio. There is a central arched doorway with moulded architrave, which is flanked by shops of considerable breadth, spanned by lintels supported only at each end. The superstructure consists of two stories divided into five bays by massive attached and unfluted Corinthian columns, two of which stand in the centre of the voids left for the shop-fronts. Between these columns appear the windows; those on the first-floor are arched and moulded in a similar manner to the doorway. The upper windows have pediments which are crushed up close under a heavy architrave, and they are further adorned by attached balusters above the sills. There is, of course, the usual dentilled cornice. It is maintained,—and justly, we think,—that the money spent upon this uninteresting and inappropriate elevation would have been amply sufficient for an ornate and picturesque façade in the national style, such as those which have been erected in Jeffrey-street, Cockburn-street, &c. There is much need of some controlling power to supervise the designs of buildings prior to their erection. The Dean of Guild Court does indeed do so, but its power only extends to matters of construction, sanitary appliances, &c.; as it is, the deed is done beyond recall, and subsequent remonstrance is useless, except as a check upon future operations.

THE DISPOSAL OF SEWAGE.

We regard with no little interest the attempt now being made at Barking to precipitate and disinfect the sewage of London. The fallacy which has led to the failure of so many schemes of this nature has been the attribution of too high a chemical value to the constituents of sewage. This was taken by the Select Committee on Sewage as high as 2d. per ton for ordinary town sewage; whereas the highest value at which we can arrive, allowing a dilution of 100 to 1, is little more than half that figure, or 1·2d. per ton of 220 gallons. This is equal to 22*l.* 14s. 6d. per million gallons, and the Sewage Purification Association propose to add to this chemicals to the value of 9*l.* The labour is estimated at 5*l.* for the same quantity. The dried residue, of which 9 tons are said to be produced out of a million gallons of sewage, is valued at 2*l.* 10s. per ton, or 22*l.* 10s. for the whole quantity. In round numbers this is equivalent to the extraction of the whole chemical value of the sewage at a cost of 14*l.* per million gallons, which we are not at all prepared to pronounce impracticable. The question of market, of course, is a matter not so easy to dispose of by anticipation. Still, as on the figures that we have given there is a margin of 9*l.*, or a possible chemical value of 31*l.* 14s. 6d. against a selling price of 22*l.* 10s., we are not precluded from the hope that it may be worth the while of the agriculturist to make use of the manure.

At all events, it is matter for congratulation to see any evidence on the part of the Metropolitan Board of Works of a desire really to grapple with the most difficult part of the great problem, to solve which they were called into existence. Of all anomalies, not even to say of all legislative scandals, none can be greater than the exemption of the greatest city in the kingdom, seated on her most important waterway, from those rules of health and of decency which the State is endeavouring to enforce on all other towns and rivers. The exemption (if it really exist, as to which we have before shown that there is room for grave doubt) of the Metropolitan Board of Works from the ordinary responsibility of other corporations or individuals in this matter, is due to misapprehension. When the Act on which they rely for immunity was being passed, arrangements were in progress for the purification of the sewage by an independent association, that expected to make much money out of the article. This fell through, no doubt from the over-estimate above referred to of the value of the product; and thus London was caught in a trap. That in some way or other the pollution of the Thames by enormous streams of crude sewage must be put a stop to is a part of the very A B C of sanitary science.

If the market should not be found, or, indeed, in any event, we should be glad to hear what has been the further experience of our correspondent, Mr. E. C. Trapp, who in March last (see vol. xliv., p. 296) wrote, in reference to an article in our columns of the 17th February, that he was about to carry out some works for a small local board district, with a view to the profitable utilisation of sewage. Our own remarks had included a chemical analysis of the elements of this refuse, with reference to a German plan for distilling the same into gas. The great value of such a satisfactory solution of one of the most perplexed problems of modern civilisation (if possible) invests any practical experience that may be obtained with unusual value. We shall be very glad to hear whether Mr. Trapp has continued to obtain from this source "a brilliant light, equal or superior to gas light from coal."

LONDON AND THE SESSION OF 1884.

Signs are already manifest of some of the more important changes in London and in municipal control, due to existing public enterprise, which Parliament will be moved to ratify in the ensuing session. Taking, firstly, the Metropolitan Board of Works, we find that body will apply for powers to fix on a remodelled basis the contributions by insurance companies insuring from fire property in the metropolis; and for emancipation from an existing Act which prevents them from estimating, as required for the general purposes of the Fire-brigade, any higher sum than would be produced by a rate of one half-penny in the pound. A notable conflict of the past summer will probably be adjusted by the Board's Bill for the compulsory closing of certain of the shafts which the Metropolitan District Railway Company opened under their Act of 1881. These are six in number: four in the gardens of the Victoria Embankment between Whitehall-place and the Temple Gardens; the fifth in the Embankment roadway opposite Montague House; and the sixth in Victoria-street near the company's station. The Government stipulate there shall be no "ventilator or air-hole of any kind" in the tunnels,—mainly under Crown lands,—of the projected underground line from Paddington to Westminster. The new contemplated thoroughfares consist of one from Kentish Town-road (a continuation of Clarence-road) westwards to the junction of King's-road with Great College-street, in St. Pancras parish; one from Cotton-street to Preston's-road, in All Saints', Poplar; and in the Liberty of the Clink, St. Saviour's, for the extension northwards of Great Guildford-street to Bankside, at White Hind-alley. Minor projects embrace the acquisition of property in Elm-street, Fleur-de-Lys-court, and Mount Pleasant, for purposes of the Gray's-Inn-road improvements. As regards their Commons Acts, they purpose to bring the Firs, a highly picturesque group of trees at North End, Hampstead Heath,* and Sol's Hole, Plumstead, respectively, within their present schemes for the preservation of those localities. The site for the river subway is definitely chosen. Two tunnels, for vehicular and foot traffic, are to be made by Hermitage Wharf, Wapping, from a point lying between St. Katharine's and London Docks. Two main approaches to the subway, north and south respectively, will start from Upper East Smithfield, at the London Docks gateway (absorbing in part Nightingale-lane), and from the intersection of Abbey-street (formerly Neckinger-road) with Dockhead (formerly Parker's-row). Other subsidiary roads are planned in the vicinity of the principal thoroughfares on either side of the water. Lastly, the Board seek authority to establish and maintain ferries across the Thames, two lines for which are already chosen: between North Woolwich Railway Station and Nile-street, Woolwich; and between Ferry-street, Isle of Dogs, and the Horseferry-road, Greenwich.

The School Board for London schedule eighty-two sites to be obtained by them, whereon to erect public elementary schools, in the several board divisions of Lambeth (say twenty-three schools); Marylebone (nine); Greenwich, Hackney, and Chelsea (eight apiece); Finsbury and Tower Hamlets (seven apiece); and Southwark (two). These comprise the enlargement of one or two existing premises, and seven alternative schemes. Reckoning with the Board's own separate items, it would appear that 509 inhabited houses are condemned by them to demolition. The aggregate area to be appropriated, including gardens, nursery-grounds, stable-yards, and the like, together with a small extent of vacant land, amounts to nearly 40 acres.* By the very nature of the case not only are the districts concerned thickly populated, but to provide increased school accommodation presupposes that the evicted inhabitants will abide in the neighbourhood in each instance. Viewed, therefore, by the light of the now agitation on the question of overcrowding, one cannot fail to see that the Board's action in carrying out the requirements of the Education Acts does not diminish the evils that oppress the London poor.

* See *Builder*, vol. xliv., p. 625.

THE BELT LIBEL CASE.

Judgment was given on Saturday last in the Queen's Bench Division on the application for a new trial of this protracted case. The application was argued at great length at the last sittings of the Court, and had stood over for some time to enable the judges to consider their decision. It will be remembered that the trial resulted in a verdict for the plaintiff, with 5,000*l.* damages. A new trial was applied for on various grounds, the chief of which were alleged misdirection of the jury by the judge who tried the case (Mr. Baron Huddleston), and an excessive award of damages by the jury. The judges before whom the application was argued were Lord Justice Coleridge, Mr. Justice Denman, and Mr. Justice Manisty. The Lord Chief Justice and Mr. Justice Denman concurred in thinking there ought to be a new trial, though they were not exactly agreed as to the grounds, nor as to the extent, to which the new trial should be granted; and, under these circumstances, the Lord Chief Justice intimated this at the time of the hearing, in order "that the parties might, if possible, approach each other." This was understood to suggest that they should agree together to reduce the damages in order to avoid a new trial, but they could not "approach each other," and had come to no agreement when the Summer Assizes arrived; and afterwards the Vacation and the Autumn Assizes separated the Judges, and the other business of the sittings had prevented them coming together until now to deliver their judgments. Those judgments, now delivered, were to the effect already stated, Lord Coleridge and Mr. Justice Denman concurring in thinking that the verdict could not stand, the former thinking it altogether wrong, the latter thinking it wrong as to the two important points of the two, competitions, and the damages excessive and exaggerated in amount,—Mr. Justice Manisty alone thinking it right, but, to avoid a new trial, concurring in a reduction of the damages to 500*l.* as proposed by Mr. Justice Denman.

The case was ordered to stand over until Friday, the 21st inst., to see whether the plaintiff will consent to the reduction of the damages to 500*l.*; if not, there will be a new trial.

[It was stated in Thursday's evening papers that Mr. Belt has decided to accept the suggested compromise.]

* About a square quarter-mile, or rather more than seven times the space of Lincoln's-Inn Fields, measuring its extreme limits.

THE INSTITUTION OF CIVIL ENGINEERS.

THE Annual General Meeting of Corporate Members was held on Tuesday evening, the 18th of December, Mr. Brunlees, F.R.S.E., President, in the chair, to receive a report from the outgoing Council on the state and condition of the Institution, and on the principal matters that had engaged their attention during the now expiring year.

It was stated in the report that, owing to the policy pursued by successive Councils, the Institution had become one of the most successful and prosperous of scientific societies,—not only financially, but also in respect of the amount of professional knowledge diffused by its publications. The Constitution was now sufficiently broad to include as corporate members all persons who had acquired eminence in the profession, or who, by their training and experience, were entitled to be considered civil engineers, whatever branch of engineering they might follow.

After the reading of the report the president presented the Telford medals, the Telford and Manby premiums and the Miller prizes for 1883, and the Howard quinquennial prize for 1882 to the several recipients. The following gentlemen were then duly elected to serve on the Council for the ensuing year:—President, Sir J. W. Bazalgette, C.B.; vice-presidents, Sir Frederick Bramwell, F.R.S., Mr. E. Woods, Mr. G. B. Bruce, and Sir John Coode; other members of the Council, Mr. B. Baker, Mr. J. W. Barry, Mr. G. Berkley, Sir Henry Bessemer, F.R.S., Mr. E. A. Cowper, Sir J. N. Douglass, Mr. C. D. Fox, Mr. A. Giles, M.P., Mr. H. Hayter, Mr. W. Pole, F.R.S., Mr. W. H. Preece, F.R.S., Sir Robert Rawlinson, C.B., Sir E. J. Reed, K.C.B., M.P., Sir W. Thomson, F.R.S., and Sir Joseph Whitworth, bart, F.R.S.

THE DEVELOPMENT OF RAILWAY AND TRAMWAY COMMUNICATION IN IRELAND.

IN the course of a paper read recently at the Institution of Civil Engineers of Ireland, on the above subject, by Mr. H. T. Crook, it was stated that in consequence of the legislation of last session, by which the Treasury is empowered to guarantee, under certain circumstances, dividend to the extent of 2 per cent. on the capital of Light Railway and Tramway Companies, a great impetus has been given to the promotion of schemes for the further development of such communication in Ireland. Mr. Crook further observed that "there is still a point in the gauge question which so far appears to have been generally overlooked, and that is that a railway with the ordinary type of rail, and a tramway with the usual grooved rail, even when nominally of the same gauge, are not actually so, and the vehicles adapted for running on the one would not travel properly on the other. This point arose in the construction of the Glasgow Corporation tramways, which by the Act of Parliament were to be constructed for the transit of ordinary railway rolling stock. In consequence, the Glasgow tramways have been constructed to a gauge of 4 ft. 7⅝ in., instead of 4 ft. 8½ in., so that the railway wagons run upon their flanges in the groove of the tram-rail. If the speeds sanctioned by the Act are attained on tramways, the rolling stock and road will have to be pretty much of the ordinary railway type; and where tramways are constructed partly in private lands and partly on public roads and streets, a special form of rail will be required to carry the track across places where the ordinary railway rail would not be admissible.

It is to be hoped that some very stringent regulations will be made for lines laid mostly along the public roads. Paving is almost entirely out of the question because of its great cost. But tram-rails of the usual type cannot be laid on unpaved roadways without destroying the roads for all ordinary traffic. It is impossible to maintain a macadamised road level in the rigid rails; and, moreover, when the rails are laid at one side of the road, they entirely destroy its drainage. In cases where the road is of sufficient width, it would be best to have rails of the railway type laid upon a slightly-raised bench like a footwalk, with a curb laid at the side in the ordinary manner, the curb being laid at such a distance from the nearest rail of the tramway as will give full clearance between vehicles on the tramway and those on the road. Where the roads are not wide enough to permit of a double line of ordinary traffic as well as the tramway, it will be necessary to widen the road by the purchase of land. By giving up a portion of the roadway entirely to the tramway, the ordinary traffic of the road will be more safely conducted."

This may be admitted, but how is the ordinary traffic in that case to cross from one side of the road to the other, which one may suppose to be a tolerably frequent necessity?

THE CLOCK AND BELLS AT THE NEW LAW COURTS.

THE clock and bells in the great tower of the Royal Courts of Justice were formally started at mid-day on Tuesday last, the 18th inst.,—a day which happened to be the second anniversary of the death of the architect of the Courts, Mr. Street, R.A. It was expected that Mr. Arthur Edmund Street and Mr. A. W. Blomfield (who have charge of the completion of the buildings) would have been present, but they were both unavoidably absent, and the clock was started by Mr. Gandy, surveyor. The operation merely consisted in severing a cord which held the pendulum to one side.

The clock, with the bells, dials, &c., were manufactured by Messrs. Gillett & Co., of Croydon, who have been engaged on the work almost since the beginning of the year. The frame of the clock is of solid cast iron, and measures 8 ft. long by 3 ft. 6 in. deep, and is planed perfectly true both at the top and bottom. All the wheels of the clock are of solid gun-metal, turned, cut, and polished by machinery; and some idea of the powerful nature of such a clock may be gained when it is stated that the larger wheels measure 24 in. in diameter. All the pinions are cut out of solid steel. The escapement is that which is technically called the "double three-legged gravity," and the pendulum is a compensated one, made of zinc and iron tubes, which prevents the clock from being affected by changes in the weather. The "bob" weighs 3 cwt. The pendulum beats two seconds of time at each swing, and is some 15 ft. long altogether. A notable feature of this clock is the introduction of Messrs. Gillett & Co.'s patent "Remontoire Train," which may be briefly described as a contrivance for causing the outside hands which overlook the street to jump simultaneously at every thirtieth second, remaining stationary in the meantime. This contrivance was first applied by the firm to the Manchester Town-hall clock, erected by them some four years ago. The new dials, which measure 8 ft. 6 in. in diameter, are purposely divided into half-minutes all the way round, in order to give effect to this "Remontoire" arrangement. The dials themselves are cast all in one piece. The two dials are secured to each other inside the drum by strong iron tie-rods. The clock is fitted with the firm's improved maintaining power and winding gear, the former to keep the clock going during the operation of winding, whilst the latter is a device for enabling the hands to be turned either way without doing any injury whatever to the machinery. The weights which act as the motive power are composed of sixty-three cast-iron "shifters," each weighing 56 lb., these giving a total of 1 ton 11½ cwt. altogether. There is attached to the clock a self-acting gas apparatus, by means of which the gas is turned up and down by the clock, without requiring a man to go up to do this. It is so arranged also that all the seasons of the year are taken into account. The clock is guaranteed by the makers to keep within one second per week.

The bells, which give out the St. Mary of Cambridge chimes, are hung in the belfry a few feet above the clock. They are of the following dimensions and notes:—

				Tn.	Cwt.	Qr.	Lb.
No. 1 ...	Note B ...	Weight		0	12	0	14
,, 2 ...	,, A ...	,,		0	15	3	4
,, 3 ...	,, G ...	,,		1	1	1	0
,, 4 ...	,, D ...	,,		2	7	2	0
Hour Bell	,, C ...	,,		3	8	0	0
		Total weight		8	4	2	18

The framing which carries them is of massive oak timber. The hammerhead which strikes the hour on the large bell weighs in itself 180 lb.

As heard in Fleet-street, Bell-yard, and the vicinity, the tone of the bells (especially the quarters) appears to be satisfactory.

NEW BUILDINGS IN FETTER LANE.

Two prominent blocks of buildings in Fetter-lane, Rolls-buildings, and Bream's-buildings, which have for some months past been in course of erection, are now externally completed. The new Birkbeck Institute, which has two lofty and commanding frontages to Rolls-buildings and Bream's-buildings respectively, has been raised to its full altitude. It is 80 ft. in height, the Bream's-buildings frontage having a massive stone cornice 4 ft. in height. The building is divided into two portions, the main half being that facing Bream's-buildings. The first floor of this portion will contain the reading-room, magazine-room, lending library, and coffee-room; whilst on the second and third floors are the class-rooms. That portion of the structure facing Rolls-buildings has continuous three-light mullion windows in Portland stone, on each story, and massive entrances at the east and west sides, upwards of 16 ft. in height to the apex of an ornamental surmounting arch, resting on carved cantilevers. In this part of the building will be a spacious lecture-room, 66 ft. by 50 ft., with circular galleries, and capable of seating 1,200 persons.

Immediately adjoining the Institute is Messrs. Burt's new printing establishment, which has just been completed. It has three prominent frontages, to Rolls-buildings, Fetter-lane, and Bream's-buildings respectively, each nearly 120 ft. in length, the structure covering a ground area of more than a quarter of an acre. The building is upwards of 70 ft. in height, and contains five floors, each floor containing ranges of recessed Gothic windows. The building has cost 10,000*l*.

The elevations of both the Birkbeck Institute and Messrs. Burt's premises are in red brick, with stone dressings. Messrs. Fowler & Hill are the architects of the Institute, and Mr. Nightingale, of the Albert Embankment Works, Lambeth, is the contractor for both buildings.

NEW BUILDINGS ON AND NEAR THE VICTORIA EMBANKMENT.

THE frontage of that portion of the Thames Embankment extending westward from the offices of the London School Board to Norfolk-street is at present undergoing important improvements by the erection of several extensive and costly buildings. When the whole of the buildings now in course of construction, and others shortly to be commenced, are finished, they will have a continuous frontage to the Embankment of upwards of 300 ft. in length, together with return frontages to the streets leading from this part of the Embankment to the Strand.

To the west of the intended enlargement of the School Board buildings, to which it is proposed to give an additional frontage of about 40 ft. towards the Embankment, at a cost of 53,000*l*., a new block of buildings, intended for offices and residential chambers, is now actively in progress. These buildings, which have a frontage to the Embankment of about 60 ft. in length, are Gothic in character, faced with red brick, and with Portland stone windows and dressings. Mr. H. C. Boyes, of Bow-churchyard, is the architect, and Mr. George Green is the contractor.

Immediately to the rear of these buildings, on the north side, with their principal frontage to Arundel-street, a similar block of offices and residential chambers is likewise in course of erection, for the Law Land Company, their general architectural features resembling those just referred to. Mr. Dunn, of John-street, Pall-mall, is the architect, and Mr. Chappell is the contractor.

To the north of the last-named premises, and immediately adjoining them, is the Temple Hotel, a prominent Gothic structure on the east side of Arundel-street, which has just been completed, and is intended to be opened for business at the commencement of the new year. It is faced with red brick, stone dressings being freely introduced. The approach to the hotel is by a flight of steps leading into a vestibule. Mr. Dunn is also the architect of this building, and Mr. Patrick is the contractor.

On the opposite or west side of Arundel-street, with its main frontage to the Embankment, the new Arundel Hotel is in course of construction: a large building in the Tudor style of architecture, and faced with red brick and Portland stone. Mr. Dunn is also the architect

of this hotel, and Mr. Morter, of Stratford, is the contractor. The estimated cost of this building is upwards of 25,000*l.*

To the west of this hotel, and extending along the Embankment to Norfolk-street, the Law Land Company, who have purchased the existing old buildings, are about to erect offices and residential chambers.

BUILDING PATENT RECORD.*

APPLICATION FOR LETTERS PATENT.

5,734. H. H. Lake, London. Door-handles. (Com. by C. E. Lacey, Calais.) Dec. 13, 1883.

NOTICE TO PROCEED

has been given by the following applicant on the date named:—

Dec. 11, 1883.

5,333. W. P. Kelly, Mount Brandon. Apparatus for retaining and releasing window-blind cords, &c. Nov. 12, 1883.

ABRIDGMENTS OF SPECIFICATIONS,

Published during the week ending December 15, 1883.

1,599. A. F. Andressen, London. Smoke-preventing and fuel-saving grates and stoves. March 29, 1883. Price 6d.

The draught is so arranged that it strikes the fire on the front and top, whereby this part of the fire is kept briskly burning, and the unconsumed black coal is below.

2,029. C. E. Davis, Bath-locking or keying together bricks employed for building purposes. April 21, 1883. Price 2d.

Holes or passages are made through the bricks, in which are placed plugs, and each of these enters the passages in two adjacent bricks and locks them together. (*Pro. Pro.*)

2,078. D. S. Keith, Toronto, Canada. Water-closets and valve-apparatus applicable thereto. April 24, 1883. Price 6d.

The basins have the usual plunger chamber, and the cistern has a ball-valve which can close the discharge opening therefrom. A tilting disc-valve,—the stem of which is acted on by a pusher,—governs the entrance of the water into the basin.

2,079. H. H. Lake, London. Apparatus for disinfecting or deodorising water-closets, sewers, &c. (Com. by C. F. Pike, Philadelphia, and G. F. Collings, New Jersey, U.S.A.) April 24, 1883. Price 6d.

The inlet of the place to be disinfected is closed, and all the air expelled therefrom when fumes or gases that are suitable are introduced, and the vent is closed.

2,199. T. Smith, Sunbury. Materials for making cements, capable also of being used for other purposes. May 1, 1883. Price 4d.

A mixture is made of the scrapings of macadamised roads, well-washed chalk, and coke, and these materials when well ground together are placed in melted sulphur and well stirred. Sand may be used instead of the scrapings of roads. The material can be used for cements, &c., for building, and paving for tiles, for lining tanks, cisterns, &c., for castings, and for joining articles together. When a small quantity of bitumen or pitch is added, it can be used for jointing pipes, and for covering electric wires, &c. Any colour can be added, but when a light colour is required the coke is omitted, and the material can be made any light shade that may be required.

* Compiled by Hart & Co., Patent Agents, 186, Fleet-street.

IRON AND CONCRETE.

Sir,—My letter to you last week [p. 804] on this subject was written somewhat hurriedly, and it is evident from your editorial note that I did not sufficiently explain myself when I said,—"The combination of two such different materials in one member must result in the entire uselessness of one or the other." I trust, therefore, that I may be permitted to show that my statement will bear criticism, and will, I think, prove to be correct.

In the same paragraph I said that concrete was practically incapable of tension. The consideration of the materials of which it is made almost proves this statement; but in order to be perfectly clear, we will assume that the particular piece of concrete under examination, say, a beam a foot square, and 10 ft. between the bearings, is composed of an aggregate of broken granite and Portland cement. If the concrete is properly made, no two pieces of the aggregate will touch, but there will be a thin layer of cement round each of the larger, the interstices being filled up with smaller aggregate, each piece surrounded by the thin layer of cement in similar manner.

I believe some experiments have been made as to the deflective power of a rod of Portland cement, but I have not the particulars before me. The rod was, I think, 12 in. long and ½ in. square, and the amount of deflection which was possible without fracture was something considerably less than 0·1 in.,—sufficient to prove that for practical purposes cement is incapable of deflection or tension. With respect to the aggregate, it is hardly necessary to produce experiments to prove that the pieces of broken granite are incapable of tension; and as far as the adhesion of the cement to the aggregate is concerned, it is clear that the least relaxation of that adhesion means fracture to a greater or lesser degree.

Concrete is, therefore, composed of materials which are of themselves incapable of tension, and the concrete must, therefore, be, and is, of the same inflexible nature. What, then, would be the result of producing deflection in the concrete beam, and how would the introduction of iron rods placed longitudinally, as suggested by your correspondents, in the lower half, increase its strength or give it that power of tension so much desired? I am afraid it must be considered that a concrete beam, like a stone one, is practically rigid, and that as soon as deflection commences, so does fracture; in the case of stone, it being one piece, the decided fracture would probably be quicker and more sudden than with concrete, for the concrete being composed of irregular pieces and consequently broken jointed, it would be possible for the adhesion between the aggregate striation to commence in a very minute and almost unappreciable form, but still fracture would have commenced, and the end could not be far off. Now suppose an iron rod inserted longitudinally 3 in. from the bottom of the beam. The beam being rigid the rod would be perfectly at rest, and not till the beam was deflected would the rod do any work, but by then fracture would have commenced in the concrete beam, and hence all the work, plus the weight of the concrete, would be thrown upon the rod; therefore, the rod to be of any use must be strong enough to do the work which it is intended the concrete beam should do, plus the weight of the concrete, in which case it is evident the concrete is not required. This, of course, is assuming that the ends of the rod are fixed; if they are not, I do not see how any appreciable strain could come on it at all, for, as cement has no power (or, at all events, but little) of adhesion to metal, the rod would run loose in the concrete.

I believe that concrete has a great future before it as a building material to be used in a similar manner, and treated in the same way, as stone or brick; it is to all intents and purposes, when properly made, the best substitute for stone known, and unlike most imitations, is not only cheaper, but in the great number of instances better than the material of which it takes the place. It is capable of any amount of ornamental or architectural treatment, and, unlike terra-cotta, is true to form and design. It may be made in districts where building stone or good bricks are not to be procured, and as it utilises as aggregate many waste products it can always be produced at a moderate cost.

Although some architects have used concrete very largely, there is no doubt that as a general rule it is not regarded in a favourable light: the reasons are that, firstly, it has only lately been introduced in a form suitable to the requisites of the day; and, secondly, failure in a new material means ruin, and of course there have been many failures of concrete, and it naturally makes architects timid of using a material, of the permanency of which there is any doubt; but if those failures are examined it will be found that invariably they have resulted from the inexperience of those engaged in the work, leading to the use of improper aggregate or bad cement, or from the non-observance of some of those numerous points which it is necessary to pay attention to in order that good concrete may be produced, a knowledge of which is only to be obtained by experience. My apology, therefore, for addressing you at this length is that, when I see that the use of concrete may possibly result in a failure, through what to my mind seems a misconceived opinion of its properties and capabilities, I think it incumbent upon me to hint at a few of the difficulties attending its manufacture and use.

Henry Faija.

*** Another important letter on this subject we are obliged to defer till next week.

"PARTY WALLS."

Sir,—In the *Builder* of the 1st December [p. 715] Professor Kerr is reported to have said, in reference to party walls, that, by the law laid down in the Building Act,—"The building owner on one side of the wall *dared not touch a brick on his own side* of the wall without giving his neighbour three months' notice," &c.

This statement surely requires some modification.

As a general rule it applies when a wall has to be *raised* and the adjoining owners' half has to be built upon, or is interfered with in any way.

But cases sometimes occur where the building owner's half of the wall is of sufficient thickness to build upon, so that he need not interfere with the adjoining owner at all.

There are, also, cases where the *whole* of a party wall belongs to the owner who intends to raise the same.

An owner can also cut into a party wall on his own side without giving notice.

Philip B. Lee.

"QUANTITIES."

Sir,—I am of opinion that if "A Provincial Architect" [see *Builder*, p. 804, *ante*] gives proper attention to the drawings and specification, he will have no time to take off quantities, but will hand that work over to a properly-qualified surveyor whose constant experience will enable him to do it in a much better way.

Is it not possible,—nay, probable,—that a surveyor feels that his interests are the same as the architect's, and while endeavouring to see that the builder is not injured by work omitted, is equally anxious that the client should not pay for more than he gets?

My experience shows that quantity surveyors are very accurate, and that their quantities are rarely excessive, while on the other hand I have known many instances of low tenders obtained from the architect's own quantities, with very unfortunate results to all concerned.

A.R.I.B.A.

ELM BLOCK FLOORS.

Sir,—The interpretation of your correspondent "P" [p. 774] is correct. For deal blocks I have always used 1½-in. stuff, but elm, if thinner than 2½ in., would be likely to turn up, especially with the slightest moisture beneath. Elm bedded in moist earth is said to last longer than oak, but not if it be subject to being sometimes wet and sometimes dry.

William White, F.S.A.

CIRCULARS.

Sir,—I read with much interest the article on "Circulars" in your last issue [p. 778], because it had a very intimate bearing on a work the Leeds and Yorkshire Architectural Society have had in hand for some time. We found it to be a common subject of complaint amongst professional men that the amount of printed matter continually brought before them is so great that they have no means for preserving it, or for classifying it so as to be available for reference when required. As a consequence the bulk of it is consigned to the waste-paper basket, and so ceases to be of benefit either to the issuer or the recipient. Most of the material thus destroyed is of value to the architects to whom it is sent, and is thrown to one side unwillingly, but as a mere necessity.

It is equally certain that the present method of scattering circulars, &c., wholesale amongst the architects of the country does not produce so much result as its cost might do were there better means for making the outlay tell in the direction intended.

In their own interests, as much as in those of the persons who issue trade catalogues, the Leeds and Yorkshire Architectural Society are getting together a library of these, with the intention of making them available for ready reference by their members or by the public generally. All the circulars, trade catalogues, &c., which are deposited with them are classified, and an index published, which is placed in the hands of every member of the Society. This being in a concise form is naturally kept on every member's desk, and will show at a glance where the information required may be found, and will make every catalogue sent as useful to its issuers as it is possible for it to be.

At the rooms of the Society an attendant is always in charge, during office hours, whose duty it is to answer all inquiries, supply any information, and lend out to members any catalogues of which duplicates have been deposited.

A small charge is made, sufficient to cover the necessary expenses of classification, and of annually publishing a classified index, but leaving no margin,

as the idea is not to make a profit, but to make the immense amount of published matter sent out by tradesmen more useful, both to themselves and the architects for whom it is intended. Our Society is sanguine as to the result being one of value alike to both senders and recipients, and one that will grow on both parties as the ease with which the mass of information being gathered together is more commonly recognised.

J. WREGHITT CONNON.

SIR,—In the matter of circulars, treated in the article in your last number [p. 778], you do not appear to have mentioned one point which might with advantage be considered.

Every one must have noticed the extreme diversity in size and form which current circulars assume, apparently with the design to draw attention by these very peculiarities. These variations may be also convenient, but if one point were attended to it would often prevent the papers being destroyed or misplaced. I allude to the facility for making up into convenient packages.

To commence, one may take a leaf of the *Builder*, which is nearly foolscap size; many advertisements are worth keeping, and I do keep most of them folded up in four,—that is, about 9 in. by 3⅜ in. Many circulars are also easily to be folded to nearly this size, smaller rather than larger, and if all persons issuing circulars would pay attention to this point, it would be greatly to the advantage of themselves as well as a convenience to such recipients as do not screw them up at once.

Even the most strict attention to this point allows some considerable choice in size,—9 in. by 6¾ in., 9 in. by 10⅛ in., 9 in. by 13½ in., and any multiple of these sizes, besides others with slight variation.

Perhaps the most awkward size is one which is prevented from doubling up by reason of sewing, &c., though nearly the proper size; for instance, thirty or forty pages, 9 in. by 6¾ in., stiffly secured along one of the short ends.

If you can insert this note in your journal, it may do some good.

W.

THE HOUSING OF THE WINDSOR POOR.

SIR,—Just a month ago to-day, the Mayor of Windsor visited with me and with my curate, in the course of a now memorable tour of observation of some of the least habitable houses of the poor in this parish, a shoemaker and his wife, who lived at 8, Garden-court, Bier-lane, Windsor. The place was a desolation of dilapidation and dirt. There was about it neither "sweetness nor light." The lady of the house, indeed, herself described her abode, with much frankness and force, as being "as black as old Harry." This their home, situated 50 yards from Thames-street-hill, right under the castle walls, had never been renovated, whitewashed, cleansed, repaired, or touched in any way whatever, during the whole of their tenancy of four-and-twenty years. Here, on Saturday, the 8th day of December instant, the woman died; and up to Monday, the 17th instant, at mid-day,—in all, nine days,—the body of this poor old soul was lying. Garden-court, condemned without any reservation whatever, by the Sanitary Commissioner of the *Builder* as long ago as March, 1871, is from 30 yards to 40 yards long by about 20 yards wide. Here for years ruined reputations and ruined houses have gone together. Here have long been established the head-quarters of "the social evil" in Windsor. It is close and cramped, and contains in all some twenty-five houses. The water-service is limited to a single pump. There is not a drop of water in the houses, and the other sanitary appointments are on a like lavish and liberal scale. In another court close by there are about a dozen houses, with no closets. This outrage on health and morals was published to the world by the *Builder* thirteen years ago. Between these twelve families there is only a service of two privies. Whilst the degradation and demoralisation of our poor is thus being accomplished in this portion of the Royal Borough, the sanitary officers make it plain that they make no complaints.

Notwithstanding that it has been sought to discredit me in one direction and disparage me in another, the crazy props of the rotten edifices to which I first called attention in a sermon preached last month at Holy Trinity Parish Church here, are beginning to give way all round. Whilst the town is being soothed by the readiness of the official assurance that there is really nothing to do, a great deal, nevertheless,—of course, quite on the quiet, early and late amongst some of the landlords,—is being done. Rickety tenements are becoming whitewashed in all directions, "whited sepulchres," before the touch of the Surveyor; begrimed with the dirt of years, under cover of abuse of me they are being renovated, restored, washed down, propped up, and plastered. But better, perhaps, than all else, I have reason to hope and to believe that the member for the borough, Mr. Richardson-Gardner, may himself come to the rescue, and undertake, at any rate, the reconstruction, and, indeed, the regeneration, of many of the now deplorable homes of the poor in this part of Windsor.

In March, 1871, just after an alarming outbreak here of small-pox, the Sanitary Commissioner of the *Builder* came to report upon the condition of the dwellings of the poor in the Bier-lane district of this town. His report is published in the *Builder* of the 25th of March of that year. From a structural, as well as from a sanitary, point of view, the houses throughout the district, comprising Bier-lane, Garden-court, Red Lion-row, and Collins's-buildings, are all alike condemned. That condemnation was pronounced in the interests of health, morals, and civilisation, by competent authority, nearly thirteen years ago. They remain, with all their accumulation of dilapidation and dirt, with all that was then full of danger and of wrong about them, now aggravated gratuitously by continuous and contemptuous neglect, as well as by the wear and tear of time. The Chancellor of the Exchequer said the other day that there were already remedies sufficient to meet and cope with all the appalling evils in connexion with the housing of the poor, and that where they were not applied it was because of the incompetency of the local authorities. When all other centres of population are everywhere moving, why should the Royal Borough stand any longer aside outside the pale of civilisation, watching the pail of the Corporation as it visits the gully-holes? In a word, sir, why should Windsor wait?

I shall never go back from the line on which I have entered until the "Authority" is either confounded or converted, and the landlords are reached; until old things have passed away and all things shall have become new; until the dwellings of our poor in Windsor are at last transformed, with howsoever bad grace, into human homes.

ARTHUR ROBINS, M.A.
Rector of Holy Trinity, Windsor,
Chaplain to the Queen and the Prince of Wales.
Holy Trinity Rectory, Windsor,
Dec. 18th, 1883.

LIGHT CASES.

LLOYD *v.* GATTI.

THIS was an injunction obtained *ex parte* on the 18th of December, 1882, in Mr. Justice Chitty's Court, by Mr. Lloyd, dental surgeon, of 437, Strand, against Messrs. A. & S. Gatti, and their builders, Messrs. Langmead & Way, to restrain them from wrongfully erecting a scaffolding and tarpaulin 26 ft. high, from the ground-floor level on the north side of plaintiff's house, and thereby darkening the light to his windows, and to restrain them from continuing the use of such scaffold and tarpauling, and to prevent the defendants carrying out their new works so as to darken the light to plaintiff's windows.

Subsequent to this *ex parte* injunction being obtained, plaintiff gave notice of motion to make the injunction perpetual, and afterwards gave notice of motion to commit the defendants to prison for contempt of court for alleged breach of the injunction.

The tarpauling was removed by defendants within two days after its erection, and defendants' architect, contending that he was only building to his old heights, proceeded with the works, and completed defendants' building.

The case was transferred to the Queen's Bench Division, and the cause and motions were tried together, before Baron Pollock, on December 5th and 6th inst. Mr. Bingham, Q.C., and Mr. Boom, instructed by Messrs. Carr & Co., appeared for plaintiff, and Mr. Murphy, Q.C., Mr. T. Northmore Lawrence and Mr. Richard Nevill, instructed by Messrs. Poole, Hughes, & Co., for the defendants.

In the course of the Chancery proceedings various affidavits were filed by Mr. Lloyd and his manager, and also from Mr. Sams, his architect, and others; and on the part of the defendants plans and affidavits were filed and sworn by Mr. Spencer Chadwick, defendant's surveyor, Mr. W. S. Cross, architect, and Mr. Robert Walker, architect and District Surveyor, denying that there was any permanent injury, or that the buildings had been increased in height, or in nearness to the plaintiff's premises.

At the conclusion of the case Mr. Baron Pollock gave judgment to the effect that the tarpaulin was not a permanent structure; that a solicitor's letter to the defendant would have had practically the same force as an injunction, the very object of which institution was to prevent a person "going to law on Tuesday for what was done on Monday." Verdict for the defendants, with costs.

Royal Caledonian Asylum of London.—At a monthly Court of Directors, Mr. James Lawrie, in the chair, held on Saturday, the 1st inst., on the motion of Mr. Robert Hepburn, seconded by Mr. J. Chisholm Gooden, it was unanimously resolved that the thanks of the directors be given to Mr. Alexander Peebles, F.R.I.B.A., the honorary architect to the Institution, for his services as such. "And as a token of their esteem for him, and as evidence of their appreciation of the work done by him, that a Life Governorship of the value of one hundred guineas be conferred upon him." This resolution has since been very suitably engrossed upon vellum, and presented to Mr. Peebles.

CHURCH-BUILDING NEWS.

Maidstone.—A new reredos has been recently added to St. John's Church, Maidstone, from the design of Mr. R. Wheeler, of Tunbridge Wells. The whole of the upper part is constructed in alabaster. The portion over the altar has a quatrefoil panel in the centre, in which is carved the Agnus Dei; the side panels contain figures of angels, and the intermediate panels have carvings of corn and grape. The remaining bays of the apse have alabaster panels filled in with marble diapers in various colours. The sanctuary has been newly laid with an encaustic tile pavement, and the chancel further enriched by seven handsome brass lamps. The works in connexion with the reredos have been successfully carried out by Messrs. T. Earp & Co., of Lambeth.

Ipswich.—The Church of St. Mary-le-Elms, Ipswich, has been enlarged by the addition of a chancel and organ-chamber and by lengthening the north aisle, the accommodation having been increased by more than 100 sittings. The west gallery has also been removed, opening up the tower arch with good effect. The chancel has an oak roof of single hammer-beam construction, the space between the principals being divided into panels by moulded ribs, above the battlemented collar beams, and in the spandrels of the moulded ribs of the principals is open tracery work. The ends of the hammer-beams are finished with carved angels with outspread wings, each figure bearing a different device. The cornice is enriched with angels and pateræ, and the lower portion is pierced with tracery. The choir fronts and clergy desks, in oak, are elaborately wrought and carved. The floor is of Italian mosaic. On either side of the altar are sedilia and credence-table, and a new altar-table is to be added from a design by the architect. A chancel arch in stone, with moulded jambs and arch richly carved on both sides with emblems of the Passion, Death, and Ascension of our Lord, divides the chancel from the nave. The outside walling is faced with cracked flintwork with stone dressings. The style is Perpendicular. The whole of the work, including the carvings and other details has been carried out from the designs and under the superintendence of Mr. E. F. Bisshopp, architect, Ipswich. Mr. George Kenney, of Ipswich, was the general contractor. The cost has been borne by the Vicar, the Rev. L. D. Kenyon Stow. The church was re-opened on the 13th inst.

Darrington.—This church (near Pontefract) has been successfully lighted hy Messrs. Jones & Willis, of Birmingham and London. In the nave and choir are handsome polished brass lamps in *repoussé* work, fitted with the patent "Hesperus" burners. In addition, there is a pair of five-light wrought-iron candle standards. These are unpainted, but oil-blacked by a special process of the makers, and picked out in gold. The whole of the fittings were designed by Mr. A. W. Blomfield, M.A., architect.

Weston-super-Mare.—Emmanuel Church, Weston-super-Mare, was re-opened on Tuesday last, after repairs and re-decoration. A memorial window has been inserted in the north side to the memory of the late Mr. E. U. Corbett Bond, by his widow, whilst the five windows on the south side have been filled with cathedral tinted glass, the gift of the vicar and churchwardens. The whole of this work has been carried out by Messrs. Bell & Son, College-green, Bristol. The general cleansing and decoration were entrusted to Mr. Theophilus Palmer; and the lighting and heating (hot-water apparatus) to Mr. Felix Thomas, and the whole of the work has been done under the direction of Mr. Chambers, architect. The stencilling of the walls and roof, and the display of texts over the principal archway and around the sides of the chancel, impart an agreeable warmth of colour to the interior. Over the east window is the text, "Now is Christ risen from the dead," and on each side is displayed the Decalogue. The reredos has been raised in the centre. The total cost of the works has been about 300*l.*

Penrhiwceiber.—On the 18th inst. the Right Rev. the Lord Bishop of Llandaff opened the new Church of St. Winefred, at Penrhiwceiber, South Wales. The new church, which has been erected in a commanding position, is in the Gothic style, built of native stone, the outside dressings being of Ombeslay stone, whilst the

inside dressings are of Bath stone. The roof over chancel and nave is of the hammer-beam type, and constructed of pitch-pine left in its natural state, planed over, but neither stained nor varnished. The trusses dividing the nave from the chancel are more ornate than the others. The portion of the roof over the sacristy is semicircular, with nicely moulded ribs divided into panels. The aisle is laid with tiles, whilst the remaining portion of the church floor is composed of wooden blocks. The church has been substantially built from designs by Mr. Thomas Nicholson, diocesan architect of Hereford, by Mr. W. Cullis, builder, of the same city. The direction of the work was entrusted by Mr. Cullis to Mr. William Makin, of Manchester. Mr. Cullis is now effecting extensive alterations at St. Margaret's, Mountain Ash.

Miscellanea.

Tenement Hospitals.—Under the above heading, Mr. Vacher, medical officer of health for Birkenhead, recently read a paper at Manchester, and having regard to the fact that it is of the utmost importance that persons occupying a somewhat superior social position should be attracted to hospitals for infectious diseases, some such plan of hospital construction as he advocates is certainly becoming more and more necessary. Persons in houses of business, and whose wares are particularly liable to spread infection, cannot often be induced to enter general wards; mothers in a good position of life will not part with their children, but will readily pay for a separate room where reasonable privacy can be combined with the advantages of isolation and treatment in hospital; and these persons, whom it is often essential to isolate in the interests of public health, could never be removed under the compulsory clause of the Public Health Act. All this is fully recognised by Mr. Vacher, and the principle he advocates deserves every attention. But as regards some of the details of his scheme, which he frankly admits may need revision, we think that the plan put forward is by no means the one best calculated to secure the end he has in view. He would arrange his tenements for hospital purposes much on the plan of an ordinary house; four, either for patients or nurses, on each floor of each block; and he would, under ordinary circumstances, make his block five stories high, with ten separate double-roomed tenements to each staircase. Now such a plan we think both unwise and wasteful. If a single case of one infectious disease were admitted into one of the tenements, no other disease could properly be admitted into that block, and since solitary attacks of certain fevers do occur, the remaining tenements in the same block could not be used, especially in a building where it is intended not so much to treat patients as to isolate them.—*Lancet.*

Christmas Cheer at Exeter.—Mr. Harry Hems, of Exeter, is known pretty well all over the country as an ecclesiastical carver and sculptor, but he is not so well known as the founder of a Christmas feast for old people in poor circumstances in the "ever faithful" city. This is the seventeenth year of Mr. Hems's hospitable entertainment, and we learn that he has invited between sixty and seventy aged guests, all of them broken-down tradesmen. On this occasion, the Boar's Head carol will be sung by some of the Cathedral choir. The guests are to assemble at one o'clock, and are to be regaled with boar's head, baron of beef, and other substantial viands, and (to quote from the quaintly-worded card of invitation),—

"After ye Feast, and even until ye toll of Curfew, there will be provided for their further temporal comfort and solace, Glee, Storie, and Carrole, and all that appertaineth to ye Countrie Dance, together with much sweet Musick upon ye Harpsicorde, ye Fiddle, and Divers Curious Instruments."

Our readers will join with us in wishing Mr. Hems and his guests a happy time of it. We note that Mr. Hems has recently been elected a member of the Town Council.

New Winchester House, Broad-street.—Messrs. Archibald Smith & Stevens have accepted the contract for the erection of two hydraulic-balance passenger-lifts, on Stevens & Major's principle, at this building (Mr. J. Pilkington, architect). These lifts, we are told, will be among the tallest in London.

Dwellings of the Poor in Wandsworth. At the last meeting of the Wandsworth District Board of Works, Mr. Meaden presiding, the Board proceeded to consider reports made by the Medical Officer of Health and the Surveyor for Wandsworth, under the provisions of the Artisans and Labourers' Dwellings Act, relative to the condition of certain houses in Waterside and Field's-alley. The reports (according to the *Clapham Observer*) revealed gross neglect of means to comfort, cleanliness, and sanitary arrangements generally. Mr. Howick said the houses in Waterside were, so to speak, nobody's property. No rents were paid, no rates or taxes, and some of the occupiers were receiving parochial relief. If by a remote chance a tenant left a house, he sold his key, perhaps for a sovereign. It would be a great blessing to the poor creatures themselves if the whole lot of houses could be swept away. The owner of the south side of Field's-alley said he wished to get rid of his tenants, and convert his houses into a shed or a stable. At present they were a dead loss to him. He did not get a quarter of his rent. One tenant owed him ten months. The Chairman said if he wanted to make such an arrangement as he had suggested, he must first turn the people out. The owner said he was anxious to make arrangements first, for he was afraid to leave all the houses empty. They would be "gutted." The ranges would be taken away, the flooring ripped up, and the windows broken. One owner concerned was stated to be waiting for a proposed railway to cut through his dilapidated property. Orders were made for the houses to be put in a state of repair without delay.

"Wide" Tendering for Engineering Works.—The lists of tenders for building works which we publish from week to week often exhibit a great diversity of calculation, the highest tender frequently being double that of the lowest and accepted tender. But it is not often that the amount of the lowest tender is only one-third that of the highest one, as is seen in the following list of tenders published in the *Engineer* for the 14th inst. viz.:—

List of tenders for two double twin screw boats for the Wallasey Local Board. Messrs. Flannery & Fawcus, Liverpool, engineers:—

	Iron.	Steel.
Edwards & Simes	£36,000	£37,000
Earle's Shipbuilding Company	17,500	18,000
S. & H. Morton	16,239	16,721
McIntyre & Co.	16,000	16,500
James Jack & Co.	16,000	16,200
Simons & Co.	15,500	15,995
Dunsmuir & Jackson	15,350	15,510
J. Watkins	14,970	15,300
Stevens & Co.	14,977	14,977
Barrow Shipbuilding Company	—	14,000
Seath & Co.	12,900	13,200
Wm. Allsup & Co. (accepted)	12,450	12,950
Abercorn Shipbuilding Company	12,300	12,900
Edward Finch & Co.	12,750	12,500
Toward & Co.	—	12,500

Engineer's estimate, £12,500.

Builders are thus not the only people whose tenders sometimes exhibit a wide divergence. It is also matter of some significance to note that while in the foregoing list the majority of the firms tendering ask from 200*l.* to 1,000*l.* more for steel than for iron, one firm puts the same figure to each material, while another asks less for steel than for iron.

International Health Exhibition, London, 1884.—The executive council of this exhibition is now meeting regularly, twice a week, at the Society of Arts House, by permission of the Council of the Society. A large general committee is also in course of formation. From among the members of the general committee, the following sub-committees have been appointed:—1. The Dwelling; 2. Workshop and factory sanitation; 3. Food,—raw materials; 4. Food and cookery; 5. Heat; 6. School and education; 7. Ambulance; 8. India; 9. Colonial. Persons wishing to exhibit in any of the classes should apply to the Secretary, Mr. E. Cunliffe-Owen, at the offices of the exhibition, South Kensington.

The Art-Union of London.—We have received the forty-seventh annual report of the Council, with list of members. The report, with the names of prize-holders, appeared in our last volume (p. 581), in our account of the annual meeting. We may remind our readers that the subject of the current year's plate is "The Tuileries, June 20, 1792." The plate has been engraved by Mr. C. W. Sharpe, from the original painting by Mr. Alfred Elmore, R.A. Every subscriber of a guinea will be entitled to an impression of this plate, as well as to a chance in the annual distribution.

Fine Art Exhibition, Newcastle-upon-Tyne.—We understand that this exhibition, which is to be opened in January next, under the auspices and management of the Bewick Club (as recently mentioned by us), is meeting with the encouragement that it deserves. Already many well-known artists have promised to send works from their easels, and important examples of Mrs. Butler's, P. A. Morris's, W. B. Scott's, W. D. McKay's, B. W. Leader's, Robt. Herdman's, Alex. Fraser's, and Aumonier's works, are likely to delight the eyes of the Novocastrians. The secretary is Mr. Dickinson, Bewick Club, Newcastle-on-Tyne. We also learn that a popular Art-Union in connexion with the exhibition has been sanctioned by the Board of Trade.

Westminster Abbey Organ.—This celebrated instrument, which many have doubtless observed to have been missing during the past year from its old site on the screen, is now being replaced in the Abbey, after complete reconstruction and enlargement at the hands of Messrs. Hill & Son. Mr. J. L. Pearson, R.A., the architect to the Chapter, has designed two fine cases for the organ, but as the capitular body have now only very scanty funds at their disposal, they are unable to have these carried out. It is to be hoped, therefore, that the public may come forward and help the Chapter to invest their reconstructed organ with an appearance that is better than a mere skeleton of woodwork and pipes.

The International Forestry Exhibition. At a meeting of the Committee of the International Forestry Exhibition last week, it was reported that his Royal Highness Prince Christian, Sir Joseph Hooker, K.C.S.I., director of the Royal Gardens, Kew; and Sir Alexander Grant, Principal of the University of Edinburgh, were among the latest additions to the list of patrons of the exhibition. The committee, it is stated, are inclined to ask for permission to hold the exhibition on the grounds of Donaldson's Hospital, and it is understood that several of the governors are in favour of acceding to the request, though one or two object. The site is one which in many respects is an admirable one, and is probably the best that could be chosen.

Destruction of a Church by Fire.—On Wednesday evening the Roman Catholic Church in Dormer-place, Leamington, was entirely destroyed by fire. About five o'clock flames were discovered in the organ-loft, where it is stated that men had been tuning the organ; and by half-past six only the bare walls of the spacious nave and chancel remained. The tower and the adjoining presbytery have been saved. The dome of the apse was embellished with costly paintings, and the ornamentation of the high altar was very elaborate. All this has been destroyed. The building, without the tower, cost over 8,000*l.* in 1869, and large sums have since been expended upon it.

A New Asylum in the West.—It will be seen by reference to p. 845, that the tenders for the erection of the new Pauper and Lunatic Asylum at Heavitree, near Exeter, have been sent in. Twenty-four tenders were submitted, ranging from 75,735*l.* (the highest) to 55,000*l.* (the lowest). The tender of Mr. H. Phillips, of Exeter (amounting to 56,200*l.*) has been accepted. Views, plans, sections, and a description of the building (of which Mr. R. Stark Wilkinson is the architect), appeared in the number of the *Builder* for September 16 last year.

Cardiff Exchange.—The tenders for the Exchange Buildings, at Mount Stuart-square, Cardiff, for which excavations have already commenced, were received by the directors of the above company on Tuesday last, and a contract was made with Mr. Clerke Burton, of Cardiff, builder, to carry out the works within eighteen months from the beginning of the New Year. The architects are Messrs. James, Seward, & Thomas, Cardiff.

Pluckley.—A window of three lights has just been erected in the Parish Church of Pluckley, Kent, to the memory of James Bacon, late steward of the estate of Sir Edward Cholmeley Dering, Bart. The work was entrusted to Messrs. Mayer & Co., of Munich, who have selected as their subjects the Talents, the Good Samaritan, and Finding of the Lost Sheep.

Obituary.—We regret to record the death of Mrs. Griffith, the wife of Mr. W. Pettit Griffith, F.S.A., architect, which took place on the 14th inst.

Safeguards against Accidents with Electric Lighting Apparatus.—There have been several well-authenticated instances of death by the shocks of certain dynamo-electric currents, and in order to guard against such occurrences when electric lighting becomes more general, the Board of Trade have fixed the upper limit of electro-motive force at 500 volts. It is believed that above this value the current becomes fatal. There is no doubt, however, that the fatality of an electric shock depends on other factors than its potential. A recent paper by Mr. W. Lant Carpenter, read before the Physical Society, showed from experiment that the resistance of the body varies very considerably with the state of the skin or outer epidermis. If it is dry, the resistance amounts to thousands of ohms; if the skin has been soaked in salt and water for twenty minutes it will fall to perhaps as many hundred ohms. It follows that a person might touch the poles of a powerful dynamo when his hands are dry and get no shock, whereas if his hands were in a state of perspiration or moistened by working in solutions of sulphate of zinc or sulphuric acid, he might get a very disagreeable or even serious shock. Electric light engineers will do well to bear this fact in mind. Another matter is that the discontinuity of the current has an important bearing on its fatality. Thus the Gramme and similar machines have produced no fatal cases of shock, whereas the Brush machines, in which there are fewer coils, and a more discontinuous current, have been the cause of several deaths in this country and abroad.—*Engineering.*

Redecoration of the Theatre Royal, Edinburgh.—The interior of this theatre has just been redecorated. In the scheme of colour adopted, what the decorators had in view was to secure a light and cool effect. A notable feature in the design is the ceiling, which has been elaborately treated. Divided into eight gilded compartments, there is shown in the centre of each a medallion, with Cupid playing a musical instrument, while the surroundings are thrown into relief to imitate raised plaster work. In the cove below are eight arches, which form a framework for the portraits of eminent composers and authors, Shakspeare's occupying the place of honour over the proscenium. The front of the gallery and upper circle have been done in a delicate shade of yellow, while the open work of the front of the dress circle has been picked out in gold. The pilasters down the sides of the stage boxes are done in gilt, with a blue running ornament in relief. The decorative work was designed and executed by Messrs. Dobie & Son, George-street; while the upholstery was entrusted to Messrs. Cranston & Elliot.

The First Avenue Hotel.—A portion of this building, recently described in our columns, was dried by Messrs. Dreyfus & Co., with "Ligny's Patent System."

TENDERS.

For the erection of a pauper lunatic asylum for 308 patients at Heavitree, near Exeter, including pumping and other machinery, for the Town Council. Mr. R. Stark Wilkinson, architect, 14, Furnival's Inn, London. Quantities by Mr. F. R. Smith, 6, Great College-street, Westminster, S.W.:—

J. R. Gibbard, Exeter	£75,735	0	0
Obank & Sons, Idle	67,800	0	0
Walters & Son, Bristol	66,500	0	0
Vanstone & Mumford, Torquay	66,182	0	0
Horsman & Co., Wolverhampton	66,000	0	0
Patman & Fotheringham, London	64,500	0	0
Stephens & Bastow, Bristol	64,000	0	0
G. H. Pollard, Taunton	63,700	0	0
S. Bevan, Plymouth	63,000	0	0
E. Bentley, Bradford	62,500	0	0
J. H. Foaden, Ashburton	62,329	0	0
Perry & Co., London	61,975	0	0
Bull, Sons, & Co., Southampton	61,435	0	0
J. Hawkins, Dawlish	60,836	0	0
Lapthorne & Goad, Plymouth	59,965	0	0
Scadding & Son, Exeter	59,578	0	0
H. J. Rossiter, Bristol	59,228	0	0
Howell & Son, Bristol	59,000	0	0
J. H. Saunders, Southampton	58,485	0	0
R. Brealy, Brixton	58,000	0	0
Foster & Dicksee, Rugby	57,486	0	0
Pethick Bros., Plymouth	57,414	0	0
H. Phillips, Exeter (accepted)	56,200	0	0
J. Marshall, Plymouth	55,000	0	0

[Architect's estimate, £56,355.]

For building three houses in Durham-road, Sunderland, for Mr. T. L. Howarth. Messrs. J. & T. Tillman, architects, 5, Bridge-street, Sunderland:—

J. Thompson & Sons	£1,952	0	0
R. Hudson, jun.	1,920	0	0
G. H. Hodson	1,820	0	0
G. Swinhoe	1,610	0	0
T. P. Shaftoe	1,556	0	0
J. Huntley	1,486	0	0

For various works at Holy Trinity Church, Woolwich. Mr. H. H. Church, architect, William-street, Woolwich:—

Reseating in Pitch Pine.

Farmer & Brindley	£1,190	0	0
North of England School Furnishing Company	780	0	0
Hammer & Co.	737	0	0
Kirk & Randall	675	0	0
Midland Joinery Company	565	0	0

Repairs and Alterations.

Kirk & Randall	£565	0	0
Coombs	424	0	0
Johnson	395	0	0
Fenn & Sons	383	0	0

Hot-water Apparatus and Pipes.

General Iron Foundry Company	£77	10	0

Accepted for alterations and additions to College Chapel' Marlborough. Mr. Bodley (Messrs. Bodley & Garner)' architect:—

Stephens & Bastow, Bristol	£10,188	3	11

For additions to St. Mary's R.C. Church, and for the erection of a lodge and convent, Ryde, Isle of Wight, for the Rev. Canon Cahill. Mr. Joseph Stanislaus Hansom, architect, 27, Alfred-place West, South Kensington:—

W. Newman (accepted)	£1,800	0	0

For erecting warehouse, Cow Cross-street, Farringdon road:—

Anley	£1,019	0	0
Jarvis	1,014	0	0
Shurmur	972	0	0
Thomerson	844	0	0

For additions to Board Schools, Woodford. Messrs. Hooper & Lewis, architects:—

Robson	£1,175	0	0
Pritchard	1,134	0	0
Sarjeant	1,115	0	0
Osborne	1,111	0	0
Bangs	1,090	0	0
Rainger	1,065	0	0
Morter	1,054	0	0
Shurmur	1,035	0	0
Egan	1,030	0	0
Knight	1,015	0	0
Hoskins	993	0	0
Reed	983	0	0
Wells	979	0	0
Good	888	0	0

For alterations and additions to premises in Oxendon-street, Haymarket, for the Civil Service Co-operative Society. Mr Thomas Verity, architect:—

Wm. Webster	£10,861	0	0
Simpson & Son	9,173	0	0
Ashby Bros.	8,711	0	0
Wm. Shurmur	8,676	0	0
Kirk & Randall	8,228	0	0
Wm. Brass	8,122	0	0

For the erection of drying shed for Messrs. Oastler, Palmer, & Co. Messrs. G. Elkington & Son, architects:—

Little	£1,320	0	0
J. & J. Greenwood	1,135	0	0
Wells	1,133	0	0
Tarrant & Son (accepted)	1,095	0	0

For the erection of three dwelling-houses at Newington, near St. Lawrence, Thanet, for Mr. W. Spain. Mr. E. L. Elgar, architect:—

H. Miller	£690	0	0
H. Bowman	480	10	0
W. Martin	480	0	0
Newby Bros.	465	0	0
J. Newby (accepted)	463	0	0

For the erection of a school for the School Board for London, in Surrey-lane (Lambeth Division), for 1,600 children. Mr. E. R. Robson, architect:—

W. Bangs & Co.	£16,279	0	0
W. Oldrey	16,000	0	0
W. Shepherd	15,988	0	0
W. Shurmur	15,984	0	0
Atherton & Latta	15,795	0	0
Kirk & Randall	15,760	0	0
F. Higgs	15,720	0	0
J. D. Hobson	15,533	0	0
W. Downs	15,501	0	0
Lathey Bros.	15,465	0	0
Holloway Bros.	15,262	0	0
J. Smith & Sons	15,256	0	0
Stimpson & Co.	15,100	0	0
S. J. Jerrard	14,939	0	0
B. E. Nightingale	14,931	0	0
H. Hart	14,910	0	0
J. T. Chappell	14,870	0	0
C. Cox	14,828	0	0
Wall Bros.	14,793	0	0
Patman & Fotheringham	14,754	0	0
W. Brass	14,704	0	0
C. Wall, Lot's-road, Chelsea*	14,630	0	0

* Recommended by Works Committee for acceptance.

For the erection of a school for 1,200 children, in Napier-street, Hoxton (Hackney Division), for the School Board for London. Mr. E. R. Robson, architect:—

Steel Bros.	£13,403	15	0
W. Larter & Son	12,939	0	0
J. H. Tarrant & Son	12,570	0	0
W. Goodman	12,530	0	0
W. J. Nisbett	12,450	0	0
Lathey Bros.	12,446	0	0
Wall Bros.	12,360	0	0
G. S. Pritchard	12,298	0	0
W. Bangs & Co.	12,231	0	0
J. Grover	12,178	0	0
M. Gentry	12,138	0	0
B. E. Nightingale	12,127	0	0
S. J. Jerrard	12,100	0	0
J. J. Sargeant	12,078	0	0
J. Smith & Sons	12,069	0	0
W. Shurmur	11,988	0	0
H. Hart	11,985	0	0
Patman & Fotheringham	11,961	0	0
W. Brass	11,911	0	0
Atherton & Latta	11,900	0	0
C. Wall	11,850	0	0
Kirk & Randall	11,837	0	0
Perry & Co.	11,780	0	0
C. Cox, Ash-grove, Hackney*	11,476	0	0

* Recommended for acceptance.

For the erection of a school to provide accommodation for 1,200 children, in Scawfell-street (Hackney Division), for the School Board for London. Mr. E. R. Robson, architect:—

Steel Bros.	£13,143	10	0
W. Larter & Son	12,174	0	0
J. H. Tarrant & Son	12,035	0	0
G. S. Pritchard	11,998	0	0
W. T. Niblett	11,980	0	0
W. Bangs & Co.	11,939	0	0
W. Goodman	11,935	0	0
F. Higgs	11,920	0	0
H. Hart	11,860	0	0
M. Gentry	11,825	0	0
J. F. Sargeant	11,813	0	0
B. E. Nightingale	11,781	0	0
Stimpson & Co.	11,780	0	0
F. & F. J. Wood	11,767	0	0
S. J Jerrard	11,693	0	0
Patman & Fotheringham	11,647	0	0
Atherton & Latta	11,630	0	0
W. Brass	11,590	0	0
W. Shurmur	11,565	0	0
Jas. Smith & Son	11,553	0	0
C. Wall	11,500	0	0
Kirk & Randall	11,377	0	0
Perry & Co	11,328	0	0
C. Cox, Ash-grove, Hackney*	11,077	0	0

* Recommended for acceptance.

For the erection of a school to provide accommodation for 800 children, in Pocock-street, Friar-street (Southwark Division), for the School Board for London. Mr. E. R. Robson, architect:—

W. Goodman	£11,935	0	0
J. H. Tarrant & Son	11,903	0	0
Holloway Bros.	11,590	0	0
W. T. Niblett	11,589	0	0
J. Grover	11,543	0	0
W. Downs	11,517	0	0
W. Bangs & Co.	11,505	0	0
W. Shurmur	11,484	0	0
G. S Pritchard	11,433	0	0
B. E. Nightingale	11,370	0	0
W. & F. Croaker	11,345	0	0
Lathey Bros.	11,341	0	0
F. Higgs	11,325	0	0
J. Marsland	11,301	0	0
W. Shephard	11,292	0	0
Atherton & Latta	11,255	0	0
Hy. Hart	11,233	0	0
Patman & Fotheringham	11,230	0	0
W. Brass	11,199	0	0
J. T. Chappell	11,140	0	0
C. Wall	11,089	0	0
S. J. Jerrard	11,040	0	0
Kirk & Randall	10,980	0	0
Wall Bros.	10,974	0	0
J. Smith & Sons	10,919	0	0
W. Oldrey	10,900	0	0
Stimpson & Co.	10,860	0	0
J. F. Sargeant, Tudor-road, Hackney*	10,760	0	0

* Recommended for acceptance.

For the enlargement of the school in Glengall-road, Cubitt Town (Tower Hamlets Division), by 790 places, for the School Board for London. Mr. E. R. Robson, architect:—

Lathey Bros.	£9,480	0	0
F. & F. J. Wood	9,470	0	0
Patman & Fotheringham	9,439	0	0
C. Wall	9,332	0	0
S. J. Jerrard	9,259	0	0
W. Bangs & Co.	9,246	0	0
Wall Bros.	9,245	0	0
Atherton & Latta	9,150	0	0
C. Cox	8,930	0	0
J. Smith & Sons	8,621	0	0
Perry & Co., Tredegar Works, Bow*	8,588	0	0

* Recommended for acceptance.

For the erection of a school to provide accommodation for 600 children on the "Slade" site, Plumstead Common-road School (Greenwich Division), for the School Board for London. Mr. E. R. Robson, architect:—

W. Bangs & Co.	£8,108	0	0
Patman & Fotheringham	8,843	0	0
Holloway Bros.	8,030	0	0
Lathey Bros.	7,975	0	0
Atherton & Latta	7,962	0	0
J. Grover	7,960	0	0
C. Wall	7,955	0	0
S. J. Jerrard	7,781	0	0
J. H. Tarrant & Son	7,778	0	0
Stimpson & Co.	7,760	0	0
F. Higgs	7,580	0	0
J. Smith & Sons	7,577	0	0
W. Tongue	7,558	0	0
Perry & Co.	7,558	0	0
F. Johnson	7,436	0	0
Kirk & Randall	7,220	0	0
Lonergan Bros., Herbert-road, Plumstead*	6,928	0	0

* Recommended for acceptance.

For the erection of a school to provide accommodation for 1,200 children in Single-street, Bow (Tower Hamlets Division), for the School Board for London. Mr. E. R. Robson, architect:—

M. Gentry	£14,355	0	0
Patman & Fotheringham	14,100	0	0
Kirk & Randall	14,050	0	0
F. & F. J. Wood	14,049	0	0
Perry & Co.	13,956	0	0
Wall Bros.	13,760	0	0
W. Bangs & Co.	13,759	0	0
B. E. Nightingale	13,721	0	0
Stimpson & Co.	13,708	0	0
C. Cox	13,700	0	0
C. Wall	13,676	0	0
Lathey Bros.	13,665	0	0
J. Smith & Sons	13,598	0	0
W. Shurmur	13,590	0	0
S. J. Jerrard	13,440	0	0
Atherton & Latta	13,300	0	0
J. H. Tarrant & Sons (withdrawn)	12,650	0	0
F. Higgs (withdrawn)	12,425	0	0

For erecting three houses at Walthamstow, for Mr. T. T. Millington. Mr. D. Haylock, architect:—

Knight	£1,640	0	0
Baker	1,300	0	0
Shurmur	1,266	0	0

For the enlargement of the Suffolk Convalescent Home at Felixstowe. Mr. E. F. Bisshopp, architect, Ipswich :—

A. Cox	£3,350	0	0
J. Pells & Sons	3,330	0	0
R. Girling	3,032	0	0
R. S. Smith	2,949	0	0
H. Everett & Son	2,849	0	0
H. Saunders & Sons	2,824	0	0
C. A. Wyatt	2,748	10	0
A. Brown	2,748	0	0
T. Ward, Felixstowe (accepted)	2,745	0	0

For the erection of new exchange, and part of the offices in connexion therewith, in Mount Stuart-square, Cardiff, for the Cardiff Exchange and Office Company, Limited. Messrs. James, Seward, & Thomas, architects, Cardiff. Quantities supplied :—

Contract No. 1.

Jones Bros.	£29,000	0	0
Shepton	27,225	0	0
Purnell & Fry	26,645	0	0
D. J. Davies	26,600	0	0
F. S. Lock	26,533	0	0
Armitage & Hodgson, Leeds*	26,500	0	0
C. Burton (accepted)	25,978	0	0
D. Davies	25,553	0	0

* All the others of Cardiff.

For workshop at Colchester Union. Mr. Walter Scargill, architect, Colchester. No quantities :—

Ambrose	£197	11	6
Wiles	191	18	0
Rice	191	16	0
Sansom	190	10	0
Start	181	10	0
Farren	169	0	0
Lee	165	0	0
Malster	165	0	0
Oldridge	147	0	0
Gladwell	145	0	0
Pitt	144	19	0
Garwood (accepted)	144	17	0

For the erection of a warehouse and offices, Addle Hill-for Mr. A. Stedall. Mr. George Edwards, architect, 68, Brompton-road. Quantities supplied by Mr. H. Lovegrove, 26, Budge-row :—

Brass	£6,293	0	0
Goad	6,250	0	0
Martin, Wells, & Co.	5,899	0	0
Chapple	5,886	0	0
Stimpson & Co.	5,880	0	0
Lawrence	5,860	0	0
Scharien & Williams	5,692	0	0
Higgs & Hill	5,680	0	0
Conder	5,590	0	0
Nightingale	5,550	0	0
Green	5,419	0	0
Reading (accepted)	5,249	0	0

For alterations and additions to London and South-Western Bank, Balham Branch. Mr. Charles Bell, architect. Quantities by Mr. H. Lovegrove :—

Johnson	£1,920	0	0
Adamson	1,875	0	0
Hobbs	1,790	0	0
Kynoch	1,670	0	0
Treves	1,625	0	0
Todleston	1,593	0	0
Beard	1,560	0	0
Smith & Son	1,507	0	0
Scott (error in cast)	1,335	0	0

For erection of new stabling, &c., for thirty-three horses, at Stockwell-road, Brixton, for the London Southern Tramways Company. Mr. Chas. Jones, architect, 151, Ebury-street :—

Evans	£310	5	0
Jackson & Todd	761	0	0
Coulthard	745	0	0
Allard	732	9	6
Holliday & Greenwood	688	13	9

For alterations and additions at Allerton House, North Cheam, for Mr. Charles Pell. Mr. Charles Jones, architect, 151, Ebury-street :—

Powell, Worcester Park (accepted)	£220	0	0

[No competition.]

For the erection of a house in Mount Park-road, Ealing. Mr. Robert Willey, architect, 66, Ludgate Hill :—

Jones & Sons, Ealing	£1,375	0	0
Penny & Durrant, Ealing	1,220	0	0
Rickets, Kilburn	1,220	0	0
Bailey, Ealing	1,198	0	0
Nye, Ealing	1,149	0	0
Waters, Ealing	1,026	0	0

For additional story and alterations to felt hat works, Hyde, for Messrs. S. Wareham & Co. Mr. J. Hunt, architect, 4, Warren-street, Stockport :—

T. Wharam, Hyde	£1,147	13	8
R. Fairbrother, Hyde	990	0	0
Statham & Sons, Pendleton	963	0	0
E. Simpson, Hyde	820	0	0
S. Robinson, Hyde	812	0	0
A. Haughton, Godley (accepted)	800	0	0

For two additional rooms to house at Heath-road, Leighton Buzzard, for Miss Grice. Mr. F. Gotto, architect, Leighton Buzzard :—

J. & F. Adams	£88	15	0
H. Edwards	83	0	0
G. Garside	80	0	0
Cook & Sons	78	10	0
A. Miles	76	7	6
S. Holdstock	75	6	6
T. P. Webb	75	0	0

SPECIAL NOTICE.—Correspondents are desired to send *full lists* of persons tendering, *with the amount of each tender*. In future, *no single name will be given without the amount of the tender*, and not then unless we have the assurance of the sender that there was no competition.

To Contributors and Correspondents.

All Letters and Communications referring to Literary and Artistic Matters must be addressed—

"*To the Editor of* The Builder,
46, *Catherine-street*,
Covent Garden, W.C.,"

And not to any individual by name.

J. B. (next week).—J. H. S. (next week).—M. B. H.—N. and N.—A. D. (Dublin) (shall be glad to hear further).—T. R. N.—C. B. & Co. (shall have consideration).—H. S. S. & Son (next week).—R. G.

Correspondents should address the Editor, and *not* the Publisher except in cases of business.

All statements of facts, lists of tenders, &c. must be accompanied by the name and address of the sender, not necessarily for publication.

We are compelled to decline pointing out books and giving addresses.

Note.—The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.

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Addressed to No. 46, Catherine-street, W.C.

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